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PULP &
PAPER ♦
INDUSTRY

JUNE
1935

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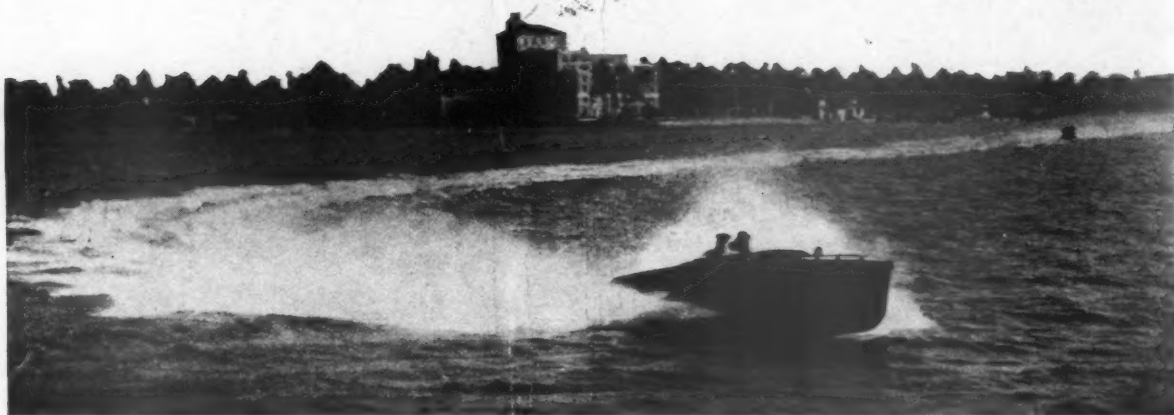
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N. Y. STATE
COLLEGE OF AGRICULTURE

VOLUME 9
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No. 6

SWEDISH TRADE AGREEMENT DRAWS FIRE FROM AFFECTED INDUSTRIES

Employees of Pulp Industry Protest Binding of Pulp on Free List

The signing of the Reciprocal Trade Agreement between the United States and Sweden on June 1st by Secretary of State Cordell Hull and the Swedish minister to the United States, W. Bostrom, caused the long smoldering resentment against the principles of the agreements to burst into flame. Before becoming effective the agreement must be proclaimed by President Roosevelt and ratified by the Swedish Riksdag.

The trade agreement with Sweden will also apply to every other country with which the United States concludes similar trade agreements.

Protests poured into Washington from all sections of the country where products affected by the agreement are manufactured. From the Pacific Coast hundreds of telegrams and letters were sent to President Roosevelt and to members of Congress from this region, protesting the "binding" of kraft pulp and unbleached sulphite on the free list for three years at a time when the pulp industry is endeavoring to obtain stability in the pulp market through a proposed duty of one-third of a cent per pound on imported chemical pulp. (The Hill bill introduced into the House in May.)

The signing of the Swedish trade agreement occurred while the Pacific Coast Pulp & Paper Manufacturers Association was meeting with the Pacific Northwest Pulp &

Paper Mill Employees Association in Portland for the purpose of negotiating a new wage agreement. A joint message of protest was sent by the two associations to Senators McNary and Steiwer of Oregon, Johnson and McAdoo of California, and Bone and Schwollenbach of Washington. The message follows:

"We urge you to protest vigorously the proposed Swedish treaty which prohibits imposition of duty on chemical pulps. We are informed that the State Department has given scarcity of pulpwood in the United States as a reason for the duty restriction clauses. This is not in accordance with facts."

George P. Berkey, vice-president of the Crown-Willamette Paper Company sent the following telegram to Senator Steiwer:

"I understand that the State Department is even alleging the disappearance of the wood supply as a justification for putting pulp on the free list."

All the State Department needs to do to find out that the United States could be permanently self-supporting in pulp and paper manufacture is to consult the Forest Service which has full data.

Part of this data, that portion covering the pulpwood supply of Western Washington and Western Oregon, was published in the May-Review Number of Pacific Pulp & Paper Industry. This shows clearly that the forests on the Pacific Coast

are not anywhere nearly developed to their full possibilities for supplying permanent raw material for pulp and paper manufacture.

Where is the Hale Report? (Senate Resolution No. 205)

In March 1934 Senator Hale of Maine introduced in the Senate a resolution calling upon the Forest Service through the Department of Agriculture, to furnish Congress with information as to whether the United States should become self-supporting nation in pulpwood and pulp production and whether the establishment of additional pulp mills would deplete our forests if proper conservation is practiced. The resolution was passed and it was made mandatory upon the Department of Agriculture to present its report to the Senate at the present session.

The Hale resolution follows:

"Resolved, That the Secretary of Agriculture be, and he is hereby, requested to submit to the Senate at his early convenience a report based on information already available covering—

(a) The extent to which the United States now depends upon imports of pulpwood, pulp and paper to meet national requirements;

(b) Whether and the extent to which it is now possible with known pulp and paper processes to supply from the forest lands of the United States all of the pulpwood needed

to meet the national pulp and paper requirements;

(c) What adjustments are feasible and necessary and what program of forest conservation is recommended for the immediate and more distant future by the Federal Government, the states, the pulp and paper industry, and private owners of forest lands to make the United States self-supporting in its pulpwood, pulp and paper requirements; and

(d) Whether it would advance or retard the program of forest conservation to make the United States self-supporting as to pulpwood, pulp, and paper requirements from American forests."

Inquiry in January of this year resulted in information that the report was nearly ready. Later inquiries were met with excuses of various kinds, the latest being given on May 8th. On this date a Pacific Coast Senator was informed in a letter from a responsible official of the Department of Agriculture that, "The report is far advanced toward completion. A number of complex questions involving international trade and the relation of pulpwood growing and pulp and paper manufacture to agriculture and to other industries is involved, however, and to work these out satisfactorily it is taking much more time than was anticipated. It is hoped that the report can be completed and submitted in the immediate future."

At the time of writing, June 15th, the Hale report has not yet been released. Why the delay? What international angles could logically apply to a survey of our forest resources in connection with a permanent pulpwood supply? Will the Hale report make the Swedish trade agreement look silly? If it is a true report it will show clearly that the United States ought to be self-supporting in the manufacture of pulp and paper AND THAT THIS COUNTRY WILL HAVE TO BECOME SELF-SUPPORTING IF TRUE CONSERVATION OF OUR TIMBER IS TO BE PRACTICED.

Conservation through sustained yield, the cry of the Forest Service, cannot be put into practical effect unless the growing trees are given their maximum market value, through maximum utilization by self sustained forest industries. How can the full value of timber be obtained when we import a million six hundred thousand tons of chemical pulp, one hundred and seventy thousand tons of groundwood pulp and two million two hundred thousand tons of newsprint AND

ALLOW THE FOREIGN PRODUCERS TO SET THE MARKET PRICES.

Naturally the market prices are going to be kept low enough by foreign producers to prevent American production from becoming generally profitable; low enough so our timber will not have enough value to justify reforestation upon an economic basis; low enough to prevent the building of new mills employing American capital and American labor.

That is our situation today. American timber is not worth enough in the form of pulp, paper, lumber and other products to warrant the expense of private reforestation. Nor is it worth enough to pay the taxes the various governments ask it to pay.

Where is the wisdom of perpetuating this unhealthy situation in the United States timber industry by favoring Sweden with a guarantee that kraft pulp and unbleached sulphite pulp will remain on the free list for three years.

Can Hull Bind Congress?

Can Congress be bound for three years from levying a justified duty on chemical pulp by the act of the State Department? If Congress can be so bound, then it has become subordinate to the executive branch of our government, and we have abandoned democratic government in practice retaining only the empty form.

American manufacturers of products affected by the deal with Sweden principally iron, steel and steel products, matches and pulp, kraft and unbleached sulphite, have raised the question of the legality of the Reciprocal Trade Agreement Act. Their challenge was based upon several points.

Question Constitutionality

Following closely after the Supreme Court decision finding the NRA unconstitutional, the agreement with Sweden brought to the fore the question of whether the Reciprocal Trade Agreement Act is also unconstitutional.

Those who allege that the Trade Agreement Act is illegal base their allegations upon the clause in the act delegating the power of the Senate to the President to make treaties for three years from June 12th, 1934 when the act was approved. They say that the trade agreements are in fact treaties and therefore illegal unless approved by the Senate. The Reciprocal Trade Agreement Act provides that the agreements come into force upon proclamation by the

President, no senatorial ratification being required.

While to date no court test has been made of the constitutionality of the Reciprocal Trade Agreement Act, dissatisfaction with the Swedish agreement appears to be reaching a point where a court test will shortly be made to determine whether or not the act is in accord with the constitution.

Pulp and Paper Affected

The agreement with Sweden provides that sulphate pulp, both bleached and unbleached and unbleached sulphite pulp shall remain on the free list for three years. It also provides that "wrapping paper not specially provided for, except straw paper shall pay a 25 per cent ad valorem duty instead of 30 per cent". The clause, "not specifically provided for" refers to the Tariff Act of 1930 which provides for kraft wrapping. "Wrapping not specifically provided for" would include sulphite wrappings.

Paper board, wallboard, and pulpboard, including cardboard, and leather board or compress leather, not plate finished, super-calendered or friction calendered, laminated by means of an adhesive substance, coated, surface stained or dyed, lined or vat-lined, embossed, printed, decorated or ornamented in any manner, nor cut into shapes for boxes or other articles and not specifically provided for, except pulp board in rolls for use in the manufacture of wallboard, are bound in the agreement at 10% ad valorem duty.

"Bound" means that the present rate is guaranteed for the three year life of the treaty.

Paper board and pulpboard, including cardboard and leatherboard or compress leather, plate finished, supercalendered or friction calendered, laminated by means of an adhesive substance, coated surface stained or dyed, lined or vat lined, embossed, printed or decorated or ornamented in any manner, will be, under the proposed agreement, subject to a duty of \$14.50 per ton of 2,000 pounds, but not less than 15% nor more than 30% ad valorem. Under the present tariff the rate is a straight 30% ad valorem.

Dill Makes Statement

Former Senator C. C. Dill of Washington was quoted in press dispatches as saying:

"The State Department has clearly exceeded the power granted the President to make reciprocal trade agreements by providing in the proposed reciprocal trade agreement with Sweden that sulphate and un-

bleached sulphite pulp shall be kept on the free list for three years, the life of the agreement.

"The act of June 12th, 1934 gave no authority to the President over any article on the free list. It specifically forbids transferring any article from the free list. This means that only Congress can place a duty on a free list article."

Mr. Dill further explained that the law was so worded that authority was not given by Congress to place on or remove from or bind an item on the free list.

National Timber Policy Needed

When President Roosevelt took office it was both hoped and expected that he would shortly formulate a national policy embracing the maximum economic utilization and the sound conservation of this country's timber resources. These hopes and expectations were the logical outcome of his widely publicized in-

terest in forestry. His speeches confirmed the belief that at last the Federal government would look at the entire timber situation from a practical viewpoint.

The insertion of article 10 in the lumber code, dealing with conservation and reforestation promised to be the forerunner of further Federal policies of cooperation with the timber industries in perpetuating America's timber resources. Article 10 was a good start but the Federal government failed to support it with appropriations to fully utilize its provisions.

Now the lumber code is gone and article 10 along with it. We still lack a national timber policy and none is in prospect at the present time.

Instead we are still handling the timber situation piecemeal as is evidenced by the proposed trade agreement with Sweden covering pulp and paper, forest products.

It is said that since the original agreement went into effect in August, 1934, only one case was carried to this arbitration body and that their decision in that case was unanimous.

Matthew J. Burns, president of the International Brotherhood of Paper Makers and H. W. Sullivan, vice-president of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, together with John Sherman, vice-president for this district, represented the unions in the negotiations.

Union representatives from Los Angeles and Pomona, California, participated in the negotiations for the first time.

Since the agreement was signed the newspaper comment throughout the Northwest has been unanimous in highly praising the spirit of mutual cooperation exhibited by the unions and the mills. To this thought has been added the remark that the Federal government ought to take cognizance of the industry's decision to maintain the code provisions in the face of the government's failure to protect the pulp and paper industry in any way.

WAGE AGREEMENT EXTENDED FOR A YEAR

With a highly commendable spirit of cooperation the representatives of almost all of the pulp and paper mills on the Pacific Coast and of the Pacific Northwest Pulp & Paper Mill Employees Association, the latter representing members of the two unions, the International Brotherhood of Pulp, Sulphite and Paper Mill Workers and the International Brotherhood of Paper Makers sat around the conference table in Portland June 1st and worked out a renewal of the wage and hour agreement for another year.

In general the agreement made in August, 1924, and which was to end May 31st, was extended.

Wages Higher Than in Other Regions

It was stated after the agreement was signed that the new wage rates will be practically 18% higher than the average for the industry in the United States.

The minimum wage was increased from 45 cents to 47½ cents per hour. However, the increases varied with the type of work performed, the idea being to straighten out inequalities that had been found to exist in the previous agreement.

The mill employers have agreed to continue voluntarily the limitations of hours which were set up by the general code of the pulp and paper industry, regardless of the

fact that this code has been invalidated along with all others by the effect of the recent decision of the Supreme Court. It is the intention of the industry on the Pacific Coast to lend its influence toward continued voluntary observance of these provisions. For that reason the employers have obligated themselves to observe the old code hour limitations until June 1st, 1936.

The two international brotherhoods were recognized in August, 1934, as the exclusive collective bargaining agency for their members in the mills and this recognition was continued in the renewed contract.

As in the original contract the new one contains an absolute commitment by both signatory parties against any strikes or lockouts during the term of the contract. It is expected this provision will protect both employees and employers against any interruption of work.

The method adopted in the August, 1934, agreement for settling disputes was retained in the new agreement because its operation has been satisfactory to both groups. The adjustment machinery is headed by a Joint Relations Board consisting of four representatives of the employees and four representatives of the employing mills. The entire adjustment set up is said to be unique in labor relations in the United States.

WITHAM JOINS CROWN-WILLAMETTE COMPANY

Effective July 1, George S. Witham, Jr., will join the organization of the Crown-Willamette Paper Co., Portland, to engage in some special work. Mr. Witham for some 7 or 8 years has been production manager of the Parker-Young Company, of Lincoln, N. H. Prior to that, for a number of years he was general superintendent of the Union Bag & Paper Company.

Swedish-Finnish Newsprint Business Good on the Pacific Coast

W. F. Dallam of San Francisco, who represents four Swedish and one Finnish newsprint mills, reports his business has picked up considerably lately. A year and a half ago he was selling two newspapers and now he has 80 accounts. Prices of his imported newsprint are from \$5 to \$7 per ton under domestic and Canadian news, he says. In the middle of June Mr. Dallam stated his mills could take no more orders, but that Eric Fernstrom, with whom his is associated, is now in Sweden and may be able to arrange for more tonnage.

Mr. Fernstrom formerly was general manager of the California Fruit Wrapping Mills of Pomona and recently left for Stockholm to reside there permanently.

LONGVIEW FIBRE'S SIMPLIFIED STOCK PREPARATION PLANT

Since the Longview Fibre Company first began operations in Longview in 1927 its executives have followed a definite policy of constantly improving the production facilities of the plant to obtain greater flexibility, economy and improved quality of the varied line of paper and board products.

The latest development in the program to provide greater flexibility is the recent completion of a waste paper stock converting plant of 75 tons daily capacity, which embodies a number of interesting ideas.

No Change in Products

The new waste paper plant will not result in changing the characteristics of the company's board products in any way.

The Longview Fibre Company's

present production of container board is based on virgin pulp and it is not its intention to change its product. However, in an emergency when movements of logs and operations of sawmills might be suspended, the new plant will provide a form of insurance for continuity of operation.

The accompanying layout together with the photographs shows clearly the simplicity of the waste paper plant operation.

Housed in a building approximately 50 by 80 feet of heavy mill type construction with side walls of transite, the waste paper plant has been so located in relation to the mill proper and raw material storage, that both the raw material and

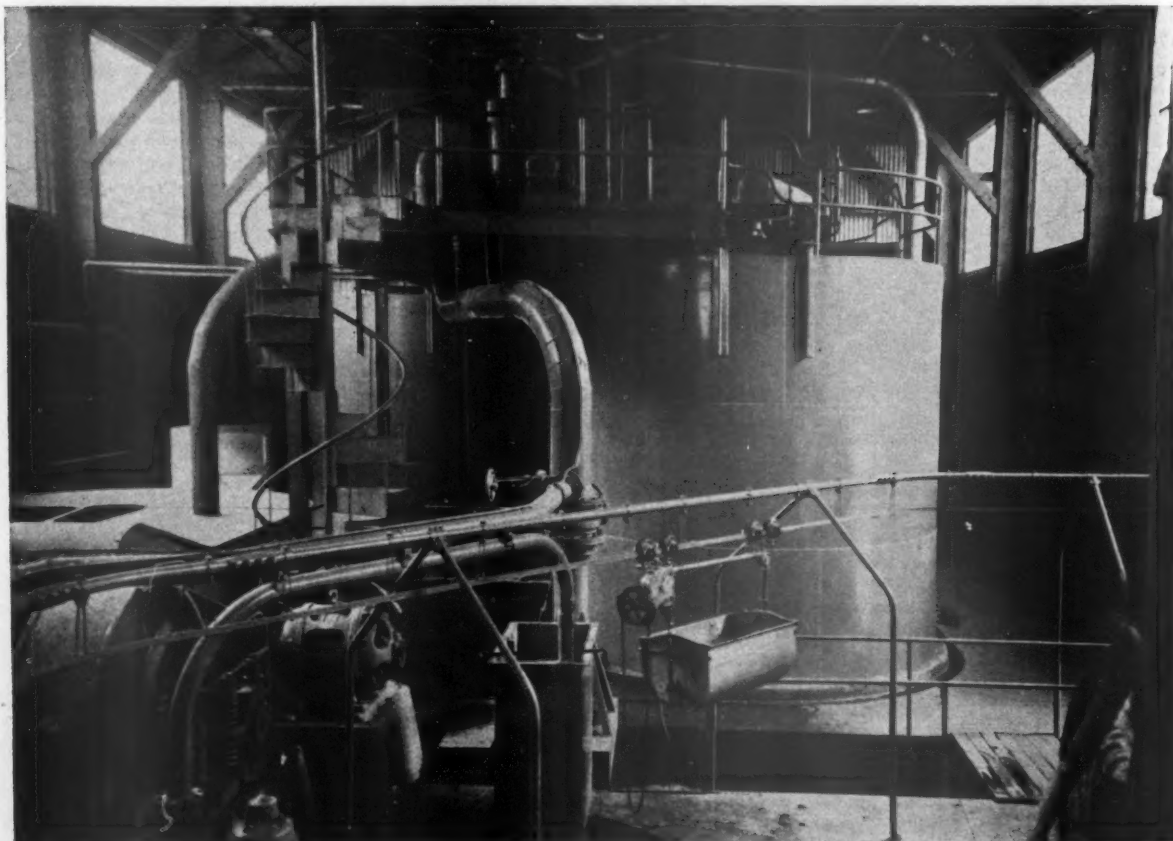
the finished stock are handled with a minimum of movement.

Outstanding Features

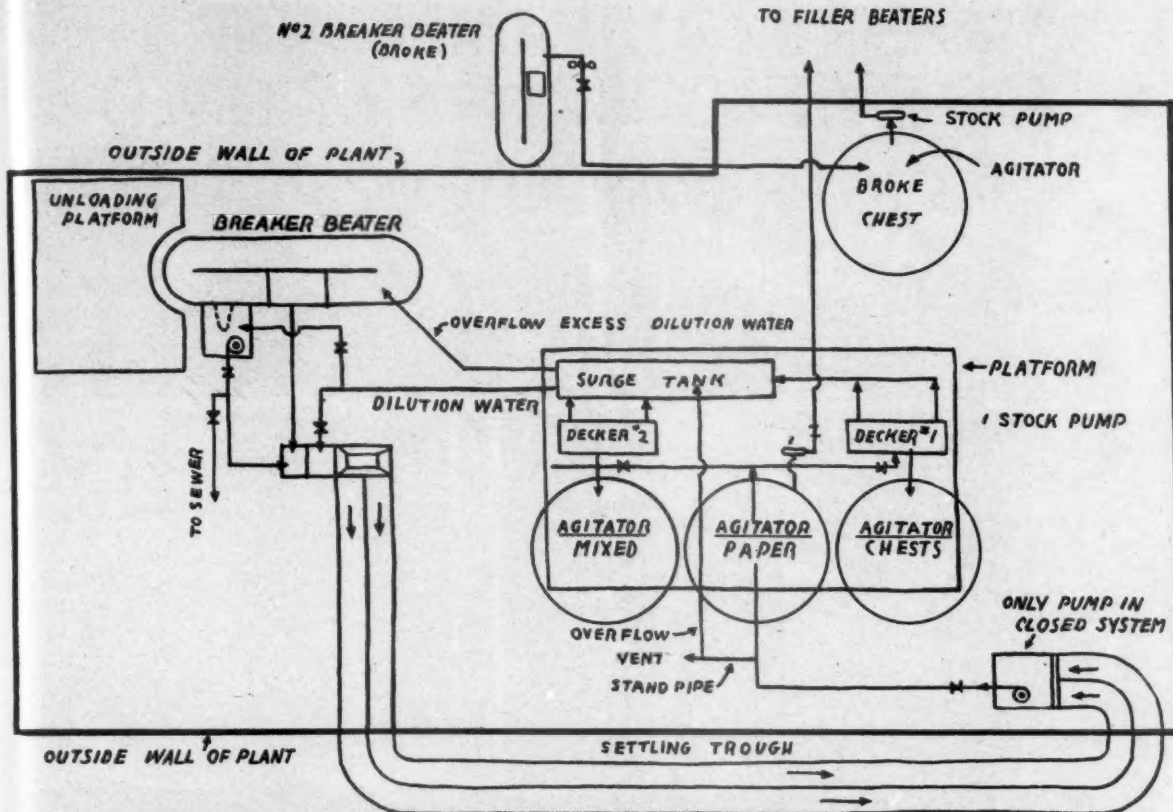
In ordinary waste paper preparation systems all stock is pumped out of the breaker beater by triplex pumps to settling troughs overhead necessitating the pumping of dilution water to the upper level also.

The Longview fibre plant eliminates the use of triplex pumps and thereby increases the system's efficiency, by locating the settling troughs on the ground floor. Only one pump, a heavy duty deep-well turbine type is employed in circulating the stock in the entire plant.

By simplifying the arrangement of the equipment but two men are required for operations.



View of the Longview Fibre Waste Paper Converting Plant. Diltz Breaker Beater is shown in part at the left of photograph.



Layout showing simple and efficient arrangement of the Longview Fibre Waste Paper Converting Plant.

Stock Flow

From the unloading platform at the left of the layout selected waste paper is dumped into the 75-ton Dilts breaker beater which is equipped with an iron tub, a rag catcher, a combination perforated backfall and a patented perforated bed plate. The rag catcher is motor driven and self-dumping.

Gravity flow carries the beaten stock into the settling troughs which run outside the building as shown in the flow sheet. The heavy foreign matter is settled out of the beater into a sump. The latter can be emptied rapidly by means of a small deep-well turbine pump and a clam shell bucket which can be lowered into the sump and when filled run outside by means of an overhead trolley. This shows clearly in the large photograph.

Lighter foreign matter such as pins, glass and sand is settled out in the settling troughs.

From the settling troughs the deep-well turbine pump pumps the stock up to the balcony level where it is screened and deckered to three per cent consistency. A surge tank

is provided for the operation of the two deckers, and from this tank excess dilution water flows by gravity back into either the beater or the settling trough whichever is necessary.

The deckers discharge the stock into three steel tanks called the mixed paper chests where it is constantly agitated. From these tanks centrifugal stock pumps send the finished stock into the mill system whenever needed.

A separate steel tank is provided for broke and trim from the paper machines. The breaker beater pulping this stock is located inside the mill proper and was installed when the mill was originally built.

Adjoining the waste paper stock plant is a warehouse approximately 120 by 130 feet.

CHANGES IN FIR-TEX

During the last year a number of changes have been made in the Fir-Tex manufacturing process, the most important of which is the change in wood supply. The company now purchases the wood partly in the form of barked slabs and partly as

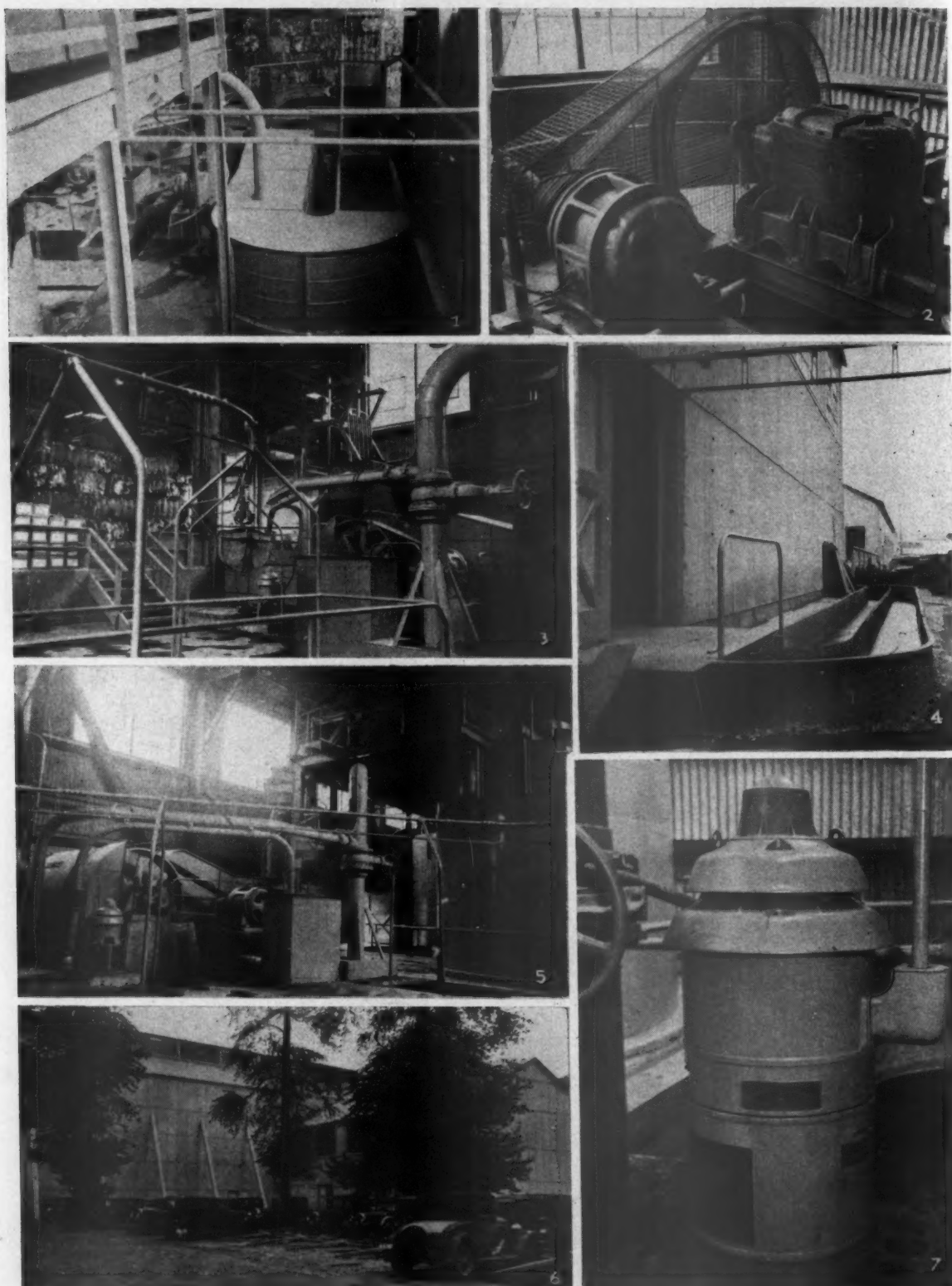
split pulp wood, using Douglas fir only. A small amount of bark is permitted on the slabs and is removed with special barkers at the plant.

The wood is now all chipped. This has resulted in a much lighter color board, the color now being a fairly dark straw, compared to the dark brown of the earlier product. Tensile strength of the board has also been materially increased.

Orders are gradually increasing and R. W. Simeral, general superintendent, looks forward to a slow, though sure expansion in the market. The company has recently made some insulator board running nine pounds to the cubic foot.

BINDING COMPANY INCORPORATED

Coil Binding Company, of Portland, has been incorporated with 500 shares of no par value stock. Incorporators are R. R. Madden and I. C. Ulrich. The company plans the sale of machines for the manufacture of coil binder books under the patents owned by Mr. Madden and associates.



THE LONGVIEW FIBRE COMPANY'S NEW WASTE PAPER CONVERTING PLANT

No. 1—The seventy-five-ton Dilts breaker beater. No. 2—Western Gear Works stock tank agitator drive. No. 3—Waste paper storage in the background; the breaker beater at the right. No. 4—Settling troughs outside the building. No. 5—Showing one of the mixed paper stock tanks at the right with platform above where deckers are located. Breaker beater at the left. No. 6—Exterior view of the waste paper converting plant at the right adjoining the waste paper and pulp storage building. No. 7—Deepwell turbine pump drive by General Electric motor. This pump handles entire stock circulation in converting plant proper.

ST. HELEN'S EARNINGS HIGHER IN 1934

The St. Helens Pulp & Paper Company of St. Helens, Oregon, increased its earnings from 23 cents per share in 1933 to \$1.20 per share in 1934 under the management of Max Oberdorfer, president and general manager of the company.

The excellent report is a result of a year of successful operation. Net profit in 1934 of \$240,197 compared with net profit in 1933 of \$46,308 and with a loss in 1932 of \$33,181. All of the profit in 1934 except \$2,788 came from operations. In 1933 all but \$9,902 of the \$46,308 profit came from operations.

Although the trust indenture requires the yearly retirement of \$75,000 of the company's 6½% first mortgage bonds, \$107,000 of the bonds were retired reducing the bonded debt from \$625,000 to \$518,000.

Ratio of current assets to current liabilities in 1934 was 5.5 to 1 as compared with 6.42 to 1 in 1933. Net working capital rose from \$746,484 in 1933 to \$854,063 in 1934 or an increase of \$107,579. Earned surplus increased \$92,754.

The detailed statements follow:

Profit and Loss and Surplus Accounts			
	1934	1933	
Earnings from opr.	\$ 519,630	\$ 287,937	
Profit on bonds	372	4,603	
Interest, etc.	2,416	5,299	
Total earnings	\$ 522,419	\$ 297,839	

Deductions:			
Depreciation	183,221	179,672	
Int., disc., exp.	43,053	50,585	
Provis. taxes	55,947	17,000	
Org. expense		4,273	
Total charges	\$ 282,222	\$ 251,531	
NET INCOME	240,197	46,308	
Prior earned surp.	1,079,496	1,144,164	
Balance	\$1,319,694	\$1,190,472	
Deductions:			
Org. expense		60,993	
Dividends	119,960	49,983	
Earned surp. 12-31	\$1,199,735	\$1,079,496	

Condensed Balance Sheets

ASSETS			
	12-31-34	12-21-33	
Cash	\$ 161,305	\$ 249,675*	
Accts., notes	311,110	251,533	
Inventories	545,993	365,456	
Life insurance	25,403	21,616	
Total current	\$1,043,812	\$ 889,280	
Invests., advances	2,500	23,147	
Real est., timber	51,204	A	
Plant, equipment, less			
depr. reserves**	2,838,517	2,911,878	
Deferred charges	29,822	50,841	
Total	\$3,965,855	\$3,875,147	

LIABILITIES			
	12-31-34	12-21-33	
Accounts payable	\$ 135,280	\$ 75,830	
Bond interest	8,417	10,156	
Taxes accrued	21,477	35,506	
Wages accrued	24,573	22,304	
Total current	\$ 189,749	\$ 142,796	
Provis. taxes	58,000		
First mtg. 6½% bonds	518,000	625,000	
199,934 shares	1,999,340	1,999,340	
Paid surplus	1,031	1,031	
Earned surplus	1,199,735	1,106,979	
Total	\$3,965,855	\$3,875,147	

*Included marketable securities.
**1934 depreciation reserve, \$1,153,545;
1933, \$974,548.
A—Real estate and timber not segregated from plant and equipment in 1933 report.

ATTEMPT TO VOID WATER CONTRACT

On May 24th, nearly three and a half months after the contract was approved by the city council of Everett, Edward J. Tweeddale and others instituted court action to have the water contract between the City of Everett and the Weyerhaeuser Timber Company set aside.

Mr. Tweeddale alleges that the contract between the city and the Weyerhaeuser Timber Company and also between the city and the Soundview Pulp Company is discriminatory against other water users in that it gives the two companies lower rates. He also alleges that the rates are too low to enable the city to meet its financial obligations in connection with its water bonds. He also alleges that the water contracted for cannot be properly called a surplus.

The charges have been denied by the city and by the Weyerhaeuser attorneys, who claim the city was

within its rights in making the contract, that the water contract rate is sufficient to meet interest and amortization charges on the bonds issued to pay for the extension in connection with the Weyerhaeuser water system, and that the contract was made in full view of the public, anyone having an opportunity of objecting before the contract was signed.

Preliminary legal skirmishes occurred June 1st, 4th, 7th, 8th and 15th, with Judge Ralph C. Bell of the Superior Court stating on the latter date that he would on June 22nd set the date for trial.

Judge Bell on June 15th stated what he believed to be the issues at bar as follows:

"Whether the city in the exercise of its right to sell surplus water by contract has entered into a contract that is discriminatory, that is not in accord within its rights and powers as a public utility to serve all alike so long as it has service to give—with compliance to all

reasonable requirements — that it is actually beyond the power to do otherwise."

Civic organizations quickly rallied to the defense of the water contract. The Everett Chamber of Commerce approved the contract and voted confidence in Mayor Edwards and the city commissions. Likewise the Kiwanis Club backed up the contract. A committee of business men was selected to aid the city and the Weyerhaeuser company in fighting the suit.

The Everett Morning News stated, "In the opinion of this newspaper evidence to be introduced in defense of the city's contract will prove conclusively that the contract is not only in the public's interest but economically sound as well."

MILL OFFICIAL TRANSFERRED

W. K. Reeve, office manager for four years at the West Linn mill of the Crown-Willamette Paper Company, was transferred a short time ago to the Los Angeles office accounting department.

He was succeeded at West Linn by R. O. Hunt of Camas.

ANDERSON JOINS WEYERHAEUSER

Leslie L. Anderson athletic coach of the R. A. Long High School in Longview, resigned a short time ago and joined the pulp division of the Weyerhaeuser Timber Company as a chemist.

SEEKING RFC LOAN

Officers of the Pacific Coast Pulp & Paper Company, Richvale, California, have applied for a loan from the Reconstruction Finance Corporation to complete the construction of their rice straw pulp and paper mill.

David M. Thompson of Los Angeles, president of the company, stated that if the loan is obtained the mill will be completed at once. The plan is to contract with rice growers for straw for which \$6 per ton will be paid at the mill. The straw will be turned into insulating board.

HARBOR PULPWOOD CUTTERS GET RAISE

Pulpwood cutters of the Grays Harbor area accepted an offer of the contractors for a 25 per cent increase in wages early in June. The increase was approved by a small majority of the cutters affiliated with the American Federation of Labor union, after a committee was authorized to continue negotiations with the contractors looking toward further improvement in working conditions.

THE MEASUREMENT OF pH OF SULFITE WASTE LIQUOR WITH THE GLASS ELECTRODE

By Carl F. Leitz, Victorian Sivertz and Kenneth A. Kobe, Department of Chemical Engineering, University of Washington, Seattle

The profound influence that the hydrogen-ion concentration or pH, has on the various operations carried out in the pulp and paper mill is well known and has been reviewed by a number of authors (1). Numerous methods are available for the determination of the pH, ranging from the simple colorimetric methods through the numerous electrometric methods. These various methods have been compared by Perley (2). Of the electrometric methods, the one with the widest range of usefulness in the pulp and paper industry is the glass electrode. The solution to be tested is separated from a solution of known pH by a thin glass membrane which acts like a hydrogen electrode. As the membrane is not effected by oxidizing or reducing agents or suspended matter, the glass electrode gives correct results in many types of solutions where other methods give erroneous results. Thus, the glass electrode has been successfully used to follow the pH changes during the pulp bleaching process (3) where the chlorine and hypochlorite ions interfere with other pH methods.

As part of a program of research on the utilization of sulfite waste liquor it was necessary to know exact pH values. The most suitable method appeared to be the glass electrode using a vacuum tube amplifying circuit and potentiometer.

The Glass Electrode

The following glass electrode system was used:

Au 1 pH HCl buffer quinhydrone	Glass membrane	Test solution	1 N KCl Hg
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The thin membrane was in the form of a bulb blown at the end of a piece of Corning 015 glass tubing. An inner unit was a small glass tube extending down into the bulb of the electrode. The bottom of this tube is sealed so that it may hold a small quantity of quinhydrone which comes in contact with the 1 pH HCl buffer through a small hole in the side of the tube 5 mm from the bottom. This arrangement prevents solid suspended matter from con-

taminating the glass membrane. A piece of gold wire contacting the solution in the inner unit is the electrode terminal. The electrode was well sealed with wax to prevent electrical leakage.

It was found possible to blow relatively thick bulbs with small carbon dioxide bubbles in the glass. The glass is very thin where these bubbles occur, and offers a means for making an electrode with a very low resistance (6).

The resistance of the electrode was measured by measuring the potential for a given buffer with and without a known resistance across the terminals. If r and R are the resistances of the glass electrode and a known resistance applied externally, and E and E' the potentials with and without R impressed across the cell, the value of r may be determined from this relation:

$$E' - Ir = IR = E$$

In estimating the resistance of the glass electrode, it was assumed that the solution resistance was negligible.

An electrode of 5 megohms gave very good results while one of 200 megohms was inconsistent, and was slow to come to equilibrium. It was observed that when the potentiometer voltage was much greater than that at the cell, the electrode assumed an additional charge which was not readily given up. However, short circuiting the cell with a high resistance for a few seconds, apparently removed the charge, and helped

to bring the cell to its equilibrium potential more quickly. This may be due to the fact that the glass electrode acts as a condenser.

Vacuum Tube Potentiometer

After searching the literature for a suitable vacuum tube amplifying circuit for measuring glass electrode potentials with a potentiometer, it was decided to use the amplified ballistic method worked out by Hemingway and Arnow (4), and Morton (5).

The theoretical diagram of the ballistic vacuum tube potentiometer is shown in Figure 1. The theory of its operation is that when the key S makes contact at a , the charge on the ballistic condenser C_1 is equal to the difference of the potentials between the glass electrode and the potentiometer. When the potentiometer voltage is made equal and opposite to the glass electrode potential, the charge on the condenser is zero. The condenser is discharged through the resistance R_1 when the key S makes contact at c , resulting in a ballistic throw that passes on through the condenser C_2 and into the grid circuit of the first tube for amplification by the two resistance coupled tubes. The galvanometer in series with the protective condenser C_4 is connected across the load resistance R_5 so that the amplified ballistic throw equal to the IR change in R_4 passes through the condenser C_4 and the galvanometer. It is very important for the safety of the galvanometer that the variable resistance R across the galvanometer be all out when connecting any of the battery leads. In balancing the potentiometer with the cell the resistance should not be thrown in all at once. This circuit is a modification of Hemingway's by the extra condenser C_2 and the resistance R_1 in the discharge circuit.

Because obtaining the voltage of the glass electrode cell within ± 0.5 millivolts as claimed for Hemingway's circuit was tedious, it seemed more desirable to increase the sensitivity by increasing the grid resistance R_2 from 0.1 to 0.5 megohm. A greater increase in the grid resistance made the circuit unstable without thorough shielding from electrostatic and electromagnetic disturbances. As a result of this change in the grid resistance R_2 , the increase in IR drop in the grid circuit was great enough to shift the zero ballistic throw a corresponding amount to where the charge on the ballistic condenser was equal and opposite to the IR drop. Using C_2 and R_1 reduced this effect to zero. Making

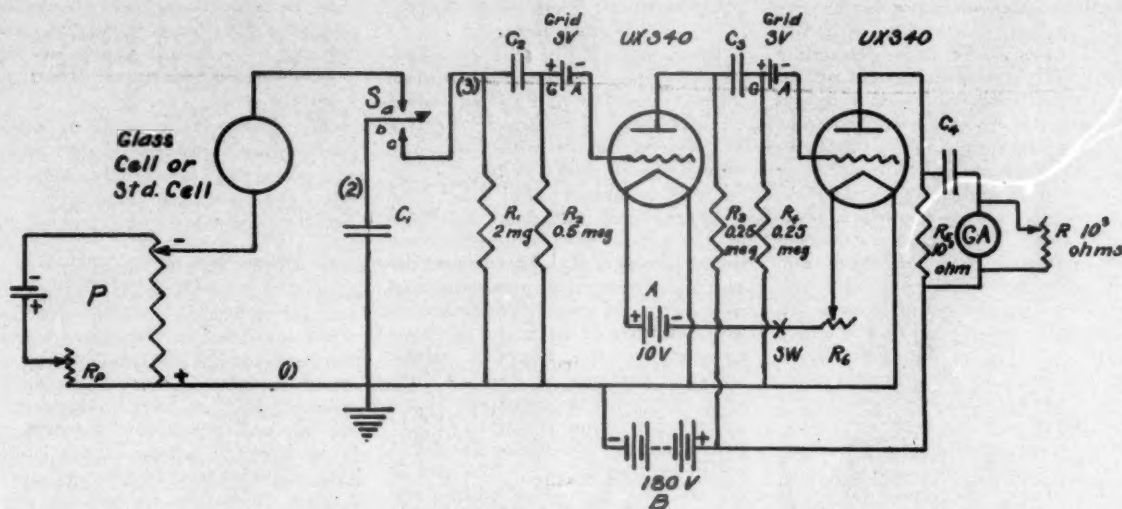


Figure 1. Circuit Diagram for Vacuum Tube Potentiometer.

C_2 , R_1 , and R_2 in the discharge circuit large as recommended by Morton (5), careful shielding was required, and the condenser C_2 was slow to discharge. If R_2 is very large, the IR drop again becomes troublesome. By making R_1 2 megohms, R_2 0.5 megohms, and C_2 1 microfarad, the voltage of the cell may be read to ± 0.1 millivolts in less than a minute. To test for grid IR drop effect in the grid resistance, the potentiometer and glass electrode cell was disconnected and the ballistic condenser short circuited across the key S. Thus knowing that this condenser is discharged, tapping the key should cause no deflection in the galvanometer. If there is a deflection, leaky insulation may be the cause provided that C_2 has been given enough time to discharge.

Good insulation of all connections and grounding of the negative lead of the B battery is essential for the successful operation of this circuit. Wooden bases for standard cells, the glass electrode, and tapping key gave trouble in that a null point could not be obtained with the galvanometer. An aluminum sheet grounded well to a water pipe helped to make the apparatus work more perfectly.

Maximum amplification is attained when the UX 340¹ tubes operated at their rated voltages as shown on the diagram. The filaments are connected in series, and a total of exactly 10 volts from a bank of Edi-

son cells is required to operate them. This should be measured accurately with a voltmeter. It is also very important that the grid bias always be negative to keep the grid current as low as possible. Two grid batteries, one for each tube, gave the best operation.

Morton (6) shows that the parallel resistance across the glass electrode system terminals should be 10^5 times the internal resistance of the cell if the glass electrode is to work as a true hydrogen electrode, and an error of less than 0.1 percent is to be obtained. The glass electrode system was placed on a glass plate covered with paraffin. All the wiring should be as short as possible, and must not touch any other wire.

The equipment consisted of a student type Leeds and Northrup potentiometer P, and a Leeds and Northrup inclosed lamp and scale galvanometer GA. A 10,000 ohm resistance box was used for the galvanometer variable resistance R. The amplifying circuit is built into an aluminum chassis with the terminals for batteries, potentiometer, and galvanometer connections. Figure 2 shows the wiring of the various parts of the hook up. S is a Leeds and Northrup single contact short circuit key.

To measure the filament voltage connect a volt meter across the ground terminal and the -A terminal. This measures the voltage drop across the filament of the last tube in the amplifier and should read 5 volts for the UX 340 tube. This voltage is adjusted by means of the filament rheostat R_3 in case the resistance is not all out. Because both tubes should have like characteristics, it is assumed that the voltage drop in each filament is the same.

Measurement of pH

The glass electrode after having seasoned in distilled water (7) for several weeks, was standardized against McIlvaine's standard buffer solutions of 0.2 M disodium phosphate and 0.1 M citric acid, and also against the alkaline soda-borax buffer solution of Kolthoff and Vleschhouwer (8). With these two sets of solutions, any pH ranging from 2.2 to 11 may be obtained. The calibration curve is straight except for a very slight curvature above 9 and below 5. This latter was attributed to the fact that McIlvaine's solutions for accurate work must be standardized against a hydrogen electrode. Table 1 shows the calibration data for an electrode having a resistance of 5 megohms.

The glass electrode was kept in

Table 1

pH	E	dE/dpH	pH	E	dE/dpH
2.2	-0.2745		7.0	+0.0015	0.0565
3.0	-0.2270	0.0595	8.0	+0.0576	0.0561
4.0	-0.1695	0.0575	9.2	+0.1235	0.0550
5.0	-0.1115	0.0580	10.0	+0.1655	0.0550
6.0	-0.0550	0.0565	11.0	+0.2196	0.0541

1. These tubes are not commonly used in radio, but may be obtained by ordering them through any local RCA dealer. Two UX 322 tubes may be used in place of the UX 340, by connecting the tops of the tubes to +22½ volts on the B battery and operating the filaments at 3.3 volts.

distilled water when not in use, and was washed thoroughly with distilled water after each determination. When measuring the pH of poorly buffered solutions, it is well to wash the electrode with some of the solution rather than attempt to dry the electrode. If the electrode is dried over night in a warm room, its potential changes as much as 25 to 30 millivolts, and, after standing for some time in a buffer solution, will come back to the original equilibrium value. In going from a low potential to a high one or visa versa, there is a lag in the potential in coming back to its original value. These effects were very troublesome with electrodes of high resistance. After many attempts, an electrode with a calculated resistance of slightly less than 5 megohms was made that gave very consistent results from day to day. It is therefor recommended that the resistance of the glass electrode be in the neighborhood of 10 megohms.

The presence of organic and suspended matter in waste sulfite liquor caused some trouble in obtaining equilibrium values quickly, probably because of the formation of a film on the electrode. By moving the glass electrode back and forth in the solution or agitating the solution around the electrode, the voltage changed rapidly to an equilibrium value where further agitation caused no change.

Experimental Work with Sulfite Waste Liquor

Previous work on the precipitation of organic material from sulfite waste liquor (9) had shown that it was necessary to neutralize the free SO_2 in the liquor with lime, and that the amount of precipitate formed with ammonia after the lime treatment was influenced markedly by the pH of the liquor after the lime treatment. In order to find the exact pH value for maximum ammonia precipitation the following work was carried out using the glass electrode to measure pH values. Varying amounts of milk of lime were added to 50 cc samples of the sulfite waste liquor (initial pH 4.1) and allowed to stand overnight in tightly corked beakers. The pH of the solution just after adding the milk of lime was 0.3 to 0.4 higher than after standing over night, also if the beakers were not stoppered the CO_2 absorption from the air decreased the pH. Below a pH of 9.6 to white inorganic precipitate of calcium sulfite which was easy to filter came down. Above 9.6 there was a sudden increase in the volume of precipitate as the organic material came down; the color ranging from a dark brown to a yellow at higher pH values. The first brown precipitate is difficult to filter, but becomes easier to filter in the more alkaline solutions. The precipitate was dried, weighed, and then ashed.

The percent ash in the precipitate suddenly drops at a pH of 9.6, confirming the organic nature of the precipitate. The data are shown in Figure 3.

The filtrate from each of these precipitations was treated with 50 cc of concentrated ammonium hydroxide. The maximum amount of precipitate came down in filtrates which had a pH of 9.6, while on either side of this value the amount of precipitate dropped rapidly. A small amount of white crystalline precipitate came down in filtrates of lower pH until at pH 8.7 a fine, dark brown substance came out which was very hard to filter. Above pH 9.6 the precipitate quickly changes from brown to a light orange color and is much easier to filter. Figure 3 also shows the amount of ammonia precipitate formed at various pH values.

Summary

A modified vacuum tube amplifying circuit of the ballistic type has been described for measuring glass electrode potentials with a potentiometer. It has been shown to give excellent results in sulfite waste liquor. Then lime is added to sulfite waste liquor until a pH of 9.6 is reached the precipitate changes from calcium sulfite to organic matter. A pH of 9.6 is optimum for the precipitation of organic material with ammonia.

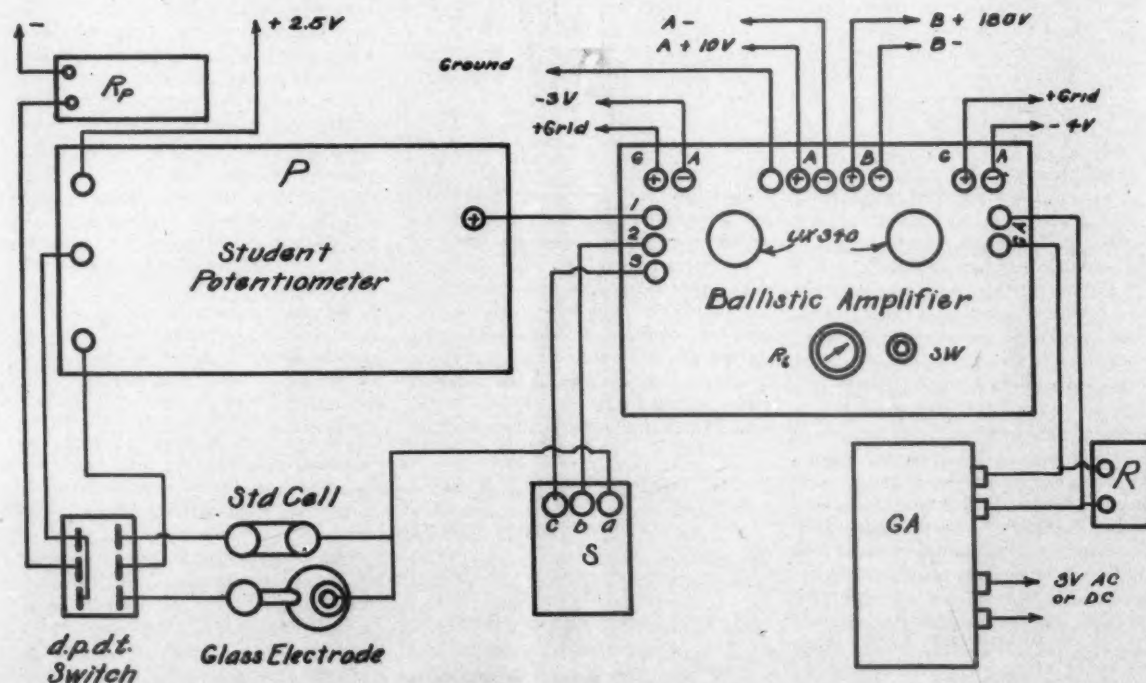


Figure 2. Wiring Diagram for Vacuum Tube Potentiometer.

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- (6) Morton, J. Chem. Soc. 256 (1934).
- (7) Laug, J. Am. Chem. Soc. 56, 1034 (1934).
- (8) Clark, The Determination of Hydrogen Ions, 1928. The Williams and Wilkins Co., pages 214-5.
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JAPS CONSIDER IMPORTING PULPWOOD

Officials of the Oji Paper Company of Japan, the largest organization of its kind in the islands were in the Pacific Northwest during May looking into the feasibility of export-pulpwood from the Pacific Coast to Japan.

The Oji company is the largest importer of pulp in Japan as it controls approximately ninety per cent of the total paper production in the country.

Officials visiting the United States were: Kenkichi Inouye, managing director; Tomomata Katayama, chief engineer; Yasanosuki Fukuhita, counsellor; Yochitsu Osaka, head of the forestry department; and Shiro Fujiara of Iwai & Company, manager of the Tokyo pulp department.

TAPPI FALL CONVENTION

The annual Fall convention of TAPPI will be held September 18th to 21st, inclusive, at the Hotel Ambassador in Atlantic City, New Jersey.

Reservations are to be made directly with the hotel.

WALDRON CHANGES SALES ARRANGEMENTS

The John Waldron Corporation of New Brunswick, New Jersey, makers of paper embossing and coating machinery and of Francke Flexible Couplings will on July 15th sell its couplings and gears directly through its own organization instead of through Smith & Serrell of Newark, New Jersey, who have handled the sale of the Francke Flexible Coupling. F. W. Thomas, formerly district manager in New York for the coupling division of the Bartlett-Hayward Company, has joined the John Waldron Corporation as general sales manager of the Francke Coupling and Silent Gear Departments.

CROWN-WILLAMETTE PAYS

The Crown-Willamette Paper Company has declared a dividend of \$1 a share on the company's first preferred stock (7%), payable July 1st to stockholders of record June 13th.

Accumulated unpaid dividends are now \$11.75 on the first preferred.

NEW EMBOSSING MACHINE

The Pacific Coast Paper Mills of Bellingham this spring installed a new embossing machine.

RAINIER CONTRIBUTES

The Rainier Pulp & Paper Company of Shelton, Washington contributed toward the funds raised this spring for the construction of the playground at Kneeland Park in Shelton.

JACOB POLLANTZ DIES

Jacob Pollantz, retired pulp mill superintendent died at his home in Port Angeles May 17th. Mr. Pollantz was pulp mill superintendent at the Crescent Boxboard plant now Fibreboard Products, Inc., at Port Angeles from 1919 until 1925 when he retired from active work.

WANTED: Used dryers in good condition, 48" diameter 130, 132 or 134" wide. Include frames, drives and shaft if possible. Address reply, Box 50, care of Pacific Pulp & Paper Industry, 71 Columbia Street, Seattle, Wash.

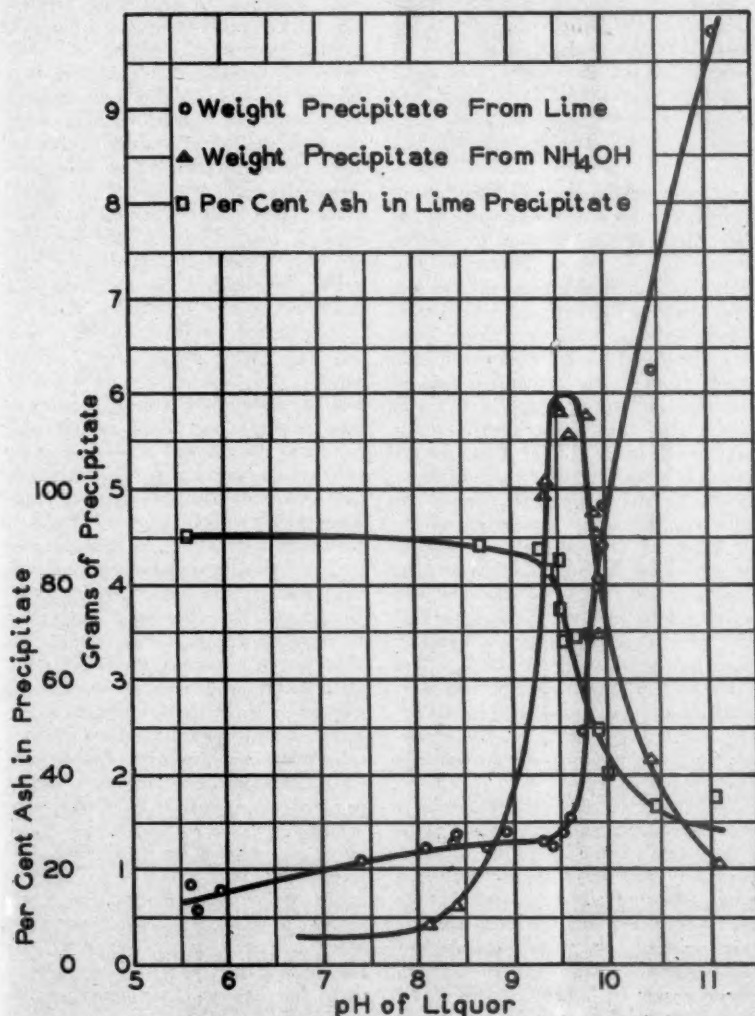


Figure 3. Lime and Ammonia Precipitation From Sulfite Waste Liquor

HOW SHAFFER'S FOUR CREW 'SCHEDULE WORKS'

By A. D. WOOD

Superintendent Shaffer Pulp Company, Tacoma

When we were told early in 1934 to reassemble our workmen, some of whom had been widely scattered during the two and a half years that the mill was idle, we were also told that under the rulings of the NRA our ordinary operators would be permitted to average only forty hours' operating work per week.

There was something funny about that law. It didn't seem real, and it was contrary to the Pulp and Paper Makers' Ten Commandments, which read, "Six days shalt thou labor and do half thy work and the other half do on Sunday." I recall that this law was written upon the walls of a mill where I labored at a time when a lot of workmen lost their jobs because they refused to work on Sunday to help make a rush order of Bible paper.

All my early experience happened to be in mills operating under the eleven and thirteen-hour shift arrangement, which sometimes meant a twenty-four or thirty-six hours shift on duty at the end of the week. Under this schedule, as I recall it, all the very best men were liable to be compelled to "double over" at the time of week-end repairs, for more men were required during a shut-down than on operating days.

I knew we were headed for a great change and hoped for the best. I remembered what a disturbance was caused in the mill when changing from the two to three shift schedules and wondered how we could arrange for four shifts. So I sought advice.

One superintendent told me that he thought the best arrangement would be to run seven 6-hour days and not change shifts at all. That meant that if one crew worked on the graveyard they would remain in the graveyard for life.

The plan for seven 6-hour shifts in one week did not appeal to the management of the Shaffer pulp mill. Our working crew is made up partly from the old pulp mill crew



and partly from the old box factory employees, men who had worked for Mr. Shaffer for twelve to fifteen years, for whom we tried to find employment in the pulp mill at the time the box factory was dismantled. Many of these men were home owners who lived possibly ten or fifteen miles from the plant, and it was an expense and a hardship for them to make the daily long journeys for six hours' work. They had trouble enough already. Out of consideration for them we abandoned the idea for the seven 6-hour shifts.

Another superintendent, who is an enthusiastic chess player, decided to jump his men off duty here and there in the mill on certain days of the week and have a crew of supply men jumped into their places. The same man might be a cook one day, acid maker next day, stock runner the third day and be on some simple job like bossing a crew for the rest of the time.

We realized that the men in a well-organized and operating plant might be shuffled around and positions on odd days might be filled with experienced men from other parts of the plant, but the deeper our research the more dissatisfied we became with any of the schedules we saw in operation. We felt that they might work in a mill already operating and well organized,

but could not be satisfactorily applied to our mill, which was being started up after a long period of idleness and with a large percentage of new and untrained men.

Then we began looking around in hopes of finding some working schedule that would be the best from the standpoint of the workman and his family and see if some worth-while plan could be fitted into our plant without working a hardship or loss upon our company. And this line of reasoning brought us back again to the problem of Sunday work, the days of shut-down for clean-up and repairs. Any of our superintendents will acknowledge that this shut-down day is the hardest day of the week and more men are required to be on duty than when the mill is in actual operation. Many times the working of overtime is unavoidable. We felt that it was most important that the schedule decided upon should lend itself readily to shut-down days.

Located as we are, in a city well supplied with stores and machine shops, and with a limited store of mill supplies and very little repair equipment at the plant, we decided to make our shut-down on days when the stores and shops were open and available for supplies and emergency jobs.

After careful consideration of many different schedules, one was suggested to me by my son, E. P. Wood, of the Weyerhaeuser Pulp Division at Longview, and after thinking the matter through from all possible angles we put his schedule on trial in the pulp mill. We have passed around copies of this schedule, showing how four shifts have continuous employment to the limit of hours set by the NRA with a minimum of overtime and a maximum of rest. The "time out" allowed by the NRA for repairs keeps our working hours within the limits prescribed. This schedule, after a year's trial, has won the hearty approval of our workmen, their families and the managers of our plant.

Our mill, like most pulp mills,

*Presented at the joint meeting of the Pacific Coast Sections of TAPPI and the American Pulp & Paper Mill Superintendents' Association. May 11th, 1935—Portland, Oregon.

SHAFFER PULP COMPANY, TACOMA, WASHINGTON
FOUR-CREW WORKING SCHEDULE

to make a complete shut-down about every two weeks for clean-up and repairs, and we plan this shut-down so that if extra help is needed it can be drawn from the crew which is off on one of the seventy-two hour vacations. Further, there is a certain flexibility in fixing the date of a shut-down. Under the old regime we shut down the mill on Sundays, regardless of mill conditions or orders. Under the new plan we can move the date ahead or set it back for a day or two without serious consequences. It is much handier than moving a Sunday.

Looking at our chart, which shows our schedule for twenty-one weeks (which, by the way, is the time required to put all the crews back in the same position as they were on the first week of this merry-go-round), you will see the schedule begins on Sunday, April 28, and that D shift was on duty from 7:00 A. M. to 3:00 P. M. for five consecutive days. If we follow the schedule through we will find that D shift was off duty on Thursday at 3:00 P. M. and did not resume work until Sunday, May 5, at 3:00 P. M., when this crew began to work five consecutive afternoon shifts; that is, from 3:00 to 11:00 P. M. There is scheduled another seventy-two hour rest period and D shift comes on duty Sunday, May 12, on the graveyard shift. After working five of these shifts, D goes home, stays twenty-four hours and resumes duty on Saturday, May 18, on the morning shift.

So goes the merry-go-round. Each man works five 8-hour shifts, with sixteen hours off duty between shifts. Then he has nine shifts. On the third week he works five shifts, is off only three shifts and returns to work. As seen in the schedule, this sometimes brings six shifts on duty between Sunday morning and the following Sunday morning, but the working hours and rest periods as outlined above remain the same. If you will refer to the chart and check it carefully, you will find that each crew is given an equal chance for working, attending church or going fishing.

Our shift leaders, of which there is one on each shift, who are the trouble shooters and represent the superintendent when he is absent from the mill, change shifts on hour later than do the operators, so that an incoming shift is for the first hour of its work under the supervision of a man who has operated the mill for the past seven hours.

I have been asked if the system

	Date Week Begins.	Shift Hours	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Date Week Ends
1	April 28	7-3 3-11 11-7	D B C	D B C	D A C	D A C	D A B	C A B	C A B	May 4
2	May 5	7-3 3-11 11-7	C D B	C D B	C D A	B D A	B D A	B C A	B C A	May 11
3	May 12	7-3 3-11 11-7	B C D	A C D	A C D	A B D	A B D	A B C	D B C	May 18
4	May 19	7-3 3-11 11-7	D B C	D A C	D A C	D A B	C A B	C A B	C D B	May 25
5	May 26	7-3 3-11 11-7	C D B	C D A	B D A	B D A	B C A	B C A	B C D	June 1
6	June 2	7-3 3-11 11-7	A C D	A C D	A B D	A B D	A B C	D B C	D B C	June 8
7	June 9	7-3 3-11 11-7	D A C	D A C	D A B	C A B	C A B	C D B	C D B	June 15
8	June 16	7-3 3-11 11-7	C D A	B D A	B D A	B C A	B C A	B C D	A C D	June 22
9	June 23	7-3 3-11 11-7	A C D	A B D	A B D	A B C	D B C	D B C	D C C	June 29
10	June 30	7-3 3-11 11-7	D A C	D A B	C A B	C A B	C D B	C D B	C D A	July 6
11	July 7	7-3 3-11 11-7	B D A	B D A	B C A	B C A	B C D	A C D	A C D	July 13
12	July 14	7-3 3-11 11-7	A B D	A B D	A B C	D B C	D B C	D A C	D A C	July 20
13	July 21	7-3 3-11 11-7	D A B	C A B	C A B	C D B	C D B	C D A	B D A	July 27
14	July 28	7-3 3-11 11-7	B D A	B C A	B C A	B C D	A C D	A C D	A C B	Aug. 3
15	August 4	7-3 3-11 11-7	A B D	A B C	D B C	D B C	D A C	D A C	D A B	Aug. 10
16	August 11	7-3 3-11 11-7	C A B	C A B	C D B	C D B	C D B	B D A	B D A	Aug. 17
17	August 18	7-3 3-11 11-7	B C A	B C A	B C D	A C D	A C D	A C D	A B D	Aug. 24
18	August 25	7-3 3-11 11-7	A B C	D B C	D B C	D A C	D A C	D A C	C B B	Aug. 31
19	September 1	7-3 3-11 11-7	C A B	C D B	C D B	C D A	B D A	B D A	B D C	Sept. 7
20	September 8	7-3 3-11 11-7	B C A	B C D	A C D	A C D	A C D	A B D	A B C	Sept. 14
21	September 15	7-3 3-11 11-7	D B C	D B C	D A C	D A C	D A C	C B B	C B B	Sept. 21

has any drawbacks, and from the standpoint of the old-time mill superintendent it has one. To illustrate this point we will suppose that a workman on C shift on the Wednesday of the first week shown in the chart had apparently slighted some important duty and according to the reports he should be disciplined. Perhaps the superintendent is considerably peeved and promises to "catch that guy tonight or tomorrow morning, and tell him what's what." Well, if Mr. Superintendent will wait seventy-two hours and then go down to the plant at 11:00 P. M., he will probably find this particular employee just arrived on duty, but the chances are he will get all over his peeve long before that time. When he does meet him, he will be so impressed with the apparent vim and vigor of this man who is bubbling over with vitality after his joyous vacation that the superintendent will be proud to have such a perfect specimen of pep on his payroll.

This schedule does interfere with old-fashioned roof raising with the help. It is but another instance where

"New occasions teach new duties; Time makes ancient good uncouth. We must upward still and onward Who would keep abreast the truth."

There's a new keenness in evidence among the gang when we tell the boys about the nice reports we often receive relative to the high quality of Shaffer's sulphite. They are not too tired to be enthusiastic about our progress.

There is a big joy in running a mill under the new schedule. There's fun in directing the work of a man that's all rested up and ready to tackle the toughest job. In the old days, just looking into the eyes of the loyal workman, eyes that reflected the pained expression of the pole sitter, aroused our sympathies, for many of us graduated into superintendents on account of being able to stand the endurance test which was the demand of that

time. We'll never forget how tired we were and how we had to keep on keepin' on. I'm glad that the workmen now have this great chance to live, and I'd like to urge all of you superintendents to boost for the better schedule. Who knows, perhaps some day, somehow, someone will think up some scheme so that we supers will be able to take a day off ourselves.

While Mr. Wood was reading his paper before the convention he received the following telegram from Arthur Sandin, president of local 199 (Tacoma) International Brotherhood Pulp, Sulphite and Paper Mill Workers:

"Members of pulp mill shift crews have heard that you were considering some other plan for arrangement of working hours and requested me to wire you not to let anyone talk you into a change of working schedules. The men believe that the present schedule is the best for all concerned."

OPPOSE PROJECTED B. C. FUEL OIL TAX

Strong protest against the suggestion that the Canadian government impose a tax on fuel oil was voiced by representatives of British Columbia pulp and paper mills when they appeared before the Vancouver session of the Dominion's tariff commission.

Chief reason for such a tax would be to offset some of the competition to British Columbia's coal industry, which has suffered from declining markets for fifteen years. It is argued by the coal men that a tax on fuel oil would lessen the margin of cost between the two fuels and give coal a chance to win back trade that had been taken away by fuel oil, nearly all of which is imported from the United States or South America.

W. L. Ketchen, manager of B. C. Pulp & Paper Company's mill at Port Alice, said it would cost his company two or three times as much to change back to coal as it had to convert from coal to oil at the close of 1923. The cost, including storage tanks, had been \$82,558. The company had operated successfully with oil and a change back to coal was not desired from the standpoint of efficiency as well as of economy.

Mr. Ketchen said that delivery of coal was always irregular. Hulks

and scows delivered coal and there were inevitable delays, especially in winter, when fuel was being shipped into the Quatsino Sound mill. At Woodfibre the company used both coal and wood.

When the company bought coal, said Mr. Ketchen, it was used in large quantity, eighty tons a day when the plant was in full operation. Cost had to be carefully considered because the product, sulphite pulp, was shipped 95 percent to export markets where competition was keen from other countries. It was admitted that less labor was employed when oil was used.

Lawrence Killam, president of B. C. Pulp & Paper, supported the statements of Mr. Ketchen and presented the commission with a copy of a report he had prepared for British Columbia's economic council on the subject of fuel oil consumption in B. C.

CAMAS WAREHOUSE

High water is retarding somewhat construction of the new dock and warehouse being erected by the Crown-Willamette Paper Co., Camas, Wash. About half the job has been completed. The second half will be completed late this year.

NEW BOX PLANT OPENS IN OAKLAND

The Royal Carton and Paper Excelsior Company of San Francisco opened a branch plant in Oakland early in June at 198 Bay Street. The new plant will manufacture all types of corrugated board and shipping cases.

A statement from L. S. Wilson, president of the company, said that "When completed (June 20th) this will be one of the most efficient electrically operated corrugated manufacturing plants in the West."

Harry W. Wilson is vice-president; H. R. Freemon, treasurer; Iva R. MacDonald, secretary, and L. M. Wilson, vice-president.

OLIVER FILTER BROCHURE

An unique folder made of California Redwood veneer has just been issued by the Oliver United Filters, Inc.

The long life of Redwood parts in Oliver pulp filters is forcefully brought to the readers attention for the folder itself is Redwood.

Oliver says that some of their oldest units with Redwood parts are still going strong after 15 years of steady service, thereby proving the durability of this wood.

Oliver offers Redwood filter construction the pulp or paper mill as an alternate to all metal or white rubber covered metal construction for all types of pulp filters.

BRITISH COLUMBIA TIMBER SURVEY COMPLETED

While the life-time of the Douglas fir and cedar timber in the heavily forested coast regions of British Columbia may be strictly limited, timber growth in the province is sustaining itself on a perpetual basis, and will continue as a source of lumber and pulpwood for an indefinite period.

That is the finding of Chief Forester P. Z. Caverhill, who has completed a new survey of British Columbia's forests and has reached conclusions much more encouraging than earlier statistics indicated.

At the present rate of cutting and destruction by fire and insects, the present mature stands of B. C. timber will probably last for fifty years, Mr. Caverhill believes. By that time, of course, large quantities of second growth will be ready for cutting.

"Fifty years from now we will be cutting smaller trees, but the yield per acre will be as great or greater," states Mr. Caverhill in his report. "Timber 100 years old often produces more lumber than young three or four times as old.

"The type of timber cut will change, too. We shall be cutting trees eighteen to thirty inches in diameter, making lumber and pulpwood like that produced in the Baltic countries. This will mean changes in logging methods, and selective logging will become possible in many stands where it is now impracticable. The mature and over-ripe timber, of course, cannot be duplicated. In future production will be confined to younger trees."

Mr. Caverhill visualizes the day when the industry will be moving gradually back into the great Sitka spruce area and into vast pulpwood forests that are at present inaccessible. Major logging operations will be concentrated in the interior of B. C., while the coast forests are given time to grow again. By that time it should be possible to develop a conservation policy which would exactly balance the annual destruction of timber with natural growth.

The Caverhill report continues:

British Columbia today has 263,467,000,000 board feet of mature commercial timber, which is not increasing materially in size, and should be cut before it declines in quality. Of this, 116,508,000,000 feet are accessible now and can be cut at existing lumber prices, but a large part of it will be available for use when it is needed, provided normal prices return. How much can ultimately

be used will depend on world factors which no one can foresee now.

Fire and Insects Cause Waste

Timber is being cut today for commercial purposes at the rate of about 4,000,000,000 feet of standing trees. This is the average cut for the last ten years, the census shows. Of this, about 140,000,000 feet are cut out of second growth, or small, low-grade timber, the remainder out of the mature stands. But with the annual destruction by fire, insects and other causes added, the total consumption of standing timber is about 6,860,000,000 feet.

Mature Timber is Declining

Against this is an annual growth of about 4,500,000,000 feet. But this growth is confined to young timber, as the mature timber is not increasing. On the contrary, it is rather declining in its total commercial volume. There are 49,000 square miles of young timber and 36,700 square miles of mature timber. As the mature timber is cut, and only then, will growth begin. It is thus calculated in the new survey that the land now bearing mature timber will vastly increase the areas of young, growing stands as soon as the present stands are removed. The forests of these new producing areas will more than counterbalance the present gap between the annual destruction of timber and the present growth, it is stated. In fact, they will greatly increase the total volume of timber in the future.

If it follows the practice of older countries, with strong timber conservation policies—and it is moving in that direction gradually now—British Columbia will ultimately rotate its forests over a period of about a century. It takes from 100 to 120 years to grow a commercial log for lumber on the coast, and from 120 to 180 years in the interior.

On this basis of conservation, British Columbia forests, at their present rate of growth, would sustain a cut of 8,055,000,000 feet, or twice the present commercial cut. This, however, is assuming that all the timber now growing could be logged, whereas part of it, at present prices, is commercially inaccessible.

Cutting Will Depend on Market

On the basis of the timber accessible at present lumber prices, the existing timber growth, rotated over a century, would allow a cut of 4,000,000,000 feet, or nearly twice the present commercial cut. Whether this much timber will be cut, of course, will depend entirely on transportation facilities and markets for timber products in the future.

The exact amount of timber which British Columbia can depend on cutting from its forests in future, of course, can not be determined exactly since it is impossible to know what areas will become accessible through rising lumber prices or other causes. But it lies somewhere between the figure of 4,000,000,000 and 8,000,000,000 feet.

This is assuming that timber is cut for large-size lumber, as at present, and not utilized in vast quantities in the form of small trees for new commercial purposes. If advancing technology, as seems likely, makes possible the use of small

trees for pulp or other products, the annual cut could be vastly enlarged.

Interior Supplies Scarcely Touched

Mr. Caverhill summed up his findings by stating that on the coast the great Douglas fir forests are being cut, burned and otherwise destroyed at the rate of about 3,240,000,000 feet a year. The coast fir belt, he said, is capable of sustaining a cut of 2,700,000,000 feet a year perpetually. Thus on the coast, British Columbia is cutting ahead of the reproduction of its fir. But in the great interior forests the cut of all species is only 765,000,000 feet as against an annual sustained yield on a perpetual basis of 4,428,000,000 feet, or a surplus of sustained yield over destruction of 3,663,000,000 feet.

THE PRINCE RUPERT PROJECT

Organization work is being carried on by the three men so far publicly identified with the proposed pulp and paper mill of the Mutual Pulp & Paper Mills, Limited, of Prince Rupert, B. C.

Mr. F. L. Buckley of Vancouver, B. C., is in Montreal with Mr. Geoffrey Winslow of San Francisco and they are not expected to return to the Pacific Coast until the end of June.

Mr. E. K. Barnum is the third organizer of the new Canadian company. He has offices in San Francisco with Mr. Winslow. The latter was identified with a pulp mill project on Puget Sound several years ago.

DUNCAN HOME AGAIN

Alec C. Duncan, resident manager of the Paper Makers Chemical Corporation plant in Portland, Oregon is back on the Coast again after a visit of more than two months and a half in England and Holland.

While in the British Isles Mr. Duncan called on most of the important paper mills and reports that the British and Scotch mills are very busy due largely to adequate tariff protection.

Mr. Duncan found that almost all newsprint now being used in England is super-calendered to make the halftones print better. Nearly all book paper is being manufactured from esparto grass brought from Tripoli in Northern Africa.

While calling on the paper mills Mr. Duncan stopped off to visit his old home in Scotland, visiting a brother and sister he had not seen for many years.

JAPANESE RAYON

Rayon production in Japan during 1934 increased 61 per cent over 1933 with a total of 1,377,947 cases. Production in December, 1934, reached an all-time high for one month of 127,663 cases.—Commerce Reports of the U. S. Department of Commerce.

PROGRESS ON TASMANIAN MILL

From the Melbourne, Australia, Sun-News of April 15th we quote the following news dispatch:

A report issued by Tasmanian Paper, Ltd., on the proposed establishment in Australia of the industry of making fine printing, writing and typewriting papers and the manufacturing of pulp from Australian raw materials, states that there has been a change in the shareholding interests of Paper Makers, Ltd., the company which owns the Burnie (Tasmania) mill site and a large freehold forest known as Surrey Hills.

Newspaper proprietors, who are shareholders in Paper Makers, Ltd., have bought practically all the shares held by people who are not connected with newspapers.

The latter shareholders have formed a group and have acquired from Paper Makers, Ltd., part of the mill site at Burnie and the right to cut pulpwood on Surrey hills or on the adjacent Crown land. The group has joined with Tasmanian Paper Manufacturers, Ltd., in carrying out technical investigations.

Recently Tasmanian Paper, Ltd., and Australian Paper Manufacturers, Ltd., brought to Australia Mr. R. Woodhead, an engineer with extensive experience in the paper industry, to report on proposed sites and the possibility of an immediate start with the industry. (Mr. Woodhead was associated with the construction of the National Paper Products Company's kraft pulp and paper mill at Port Townsend, Washington.—Editor). Mr. Woodhead has reported on the prospects of the proposed industry, and on sites in Tasmania and in other states.

The three interests concerned have signed an agreement to make a final survey immediately of Mr. Woodhead's reports, and to proceed with the establishment of the industry if the results of the survey confirm the present indications of satisfactory prospects.

The first section of the industry would involve an expenditure of about \$1,000,000.

Close Study of Sites

The question of the most suitable site for the first section is being closely studied. Before a final determination can be made, further consultation with the governments concerned will be necessary.

Additional legislation may have to be passed so that the industry will start under conditions necessary to insure success.

It is proposed that the whole of the capital required will be provided by private interests and no guarantee of debentures or any direct financial assistance will be sought from State or Federal Governments.

It is estimated that the completion of this first section will occupy between 18 and 24 months, during which work will be provided for a large number of men on construction. Later, permanent work will be available for many men and women.

TO MANUFACTURE BOTTLE CAPS

The Continental Milk Bottle & Cap Company, Inc., Portland, Ore., has been incorporated with 250,000 shares of stock and has taken temporary headquarters at 2812 N. W. Thurman St. The company has a patented milk bottle, which is being made available nationally through the Owens-Illinois-Pacific Glass Company, which also will have a patented pulp cap. The company contemplates installing 10 cap-making machines which will have a capacity of 500,000 caps in 8 hours. L. F. Simpson is president and general manager.

CORNSTALKS FAIL AS PAPER MATERIAL

The National Bureau of Standards in Washington, D. C., has determined through exhaustive studies of the possibilities of making pulp and paper from cornstalks that under present conditions cornstalks cannot compete with wood as a raw material.

The Bureau of Standards in its report says: "They (bureau scientists) succeeded in making clean, white writing paper despite serious difficulties presented by the structural characteristics of the plant, and by the excessive amounts of dirt always clinging to the field-gathered stalks. However, from a consideration of the costs, it does not appear that cornstalks can compete successfully with wood as a raw material for paper under present conditions."

The Bureau of Standards also found that cornstalk fibres were too brittle for use in ordinary brown wrapping papers where strength is the prime requisite. Although satisfactory writing papers were made the yields were very low. The cornstalks are so light and bulky that much more pulping equipment and chemicals are required than for wood.

The bureau concluded its summary of the research work with the following statement:

"From a consideration of all the costs involved in making paper from cornstalks as compared to wood, it is estimated that the stalks could not compete successfully with wood, even if wood were double in price, unless profitable uses are developed for by-products or parts of the stalk not used in paper."

APPROVED CHEMISTS

Seven Pacific Coast chemists were on the list recently approved by the American Paper and Pulp Association, the Association of American Wood Pulp Importers and the Technical Association of the Pulp and Paper Industry.

The list names those chemists throughout the country who are authorized to weigh, sample and test wood pulp for moisture. Under the heading Commercial Chemists appears Abbot A. Hanks, Inc., of 624 Sacramento Street, San Francisco; Arthur R. Maas Chemical Laboratories, 308 E. Eighth Street, Los Angeles; J. G. Priestly of the Northwest Testing Laboratories, 208 James Street, Seattle, and William E. Breitenbach of the Grays Harbor Pulp & Paper Company, Hoquiam, Washington.

Under Pulp and Paper Mill Chemists three Coast men were named: N. W. Coster of the Soundview Pulp Company, Everett, Washington; Hyman L. Rammer, Fibreboard Products, Inc., Stockton, California, and George H. McGregor of the Pulp Division, Weyerhaeuser Timber Company, Longview, Washington.

FOREST EXPERIMENT STATION PUBLISHES BIOGRAPHY

Forest research in Oregon and Washington as conducted by the Pacific Northwest Forest Experiment Station is summarized in a bibliography containing almost 600 references, all articles having been prepared by members of the station staff. In this list are included printed articles, mimeograph and important office reports and manuscripts dating from the foundation of the station in 1924. Although the majority of the articles are no longer available for general distribution, the list shows the form, date and place of appearance of each article so that it can be readily obtained on loan.

INCREASES STORAGE CAPACITY

St. Helens Pulp & Paper Co., St. Helens, Ore., has built an additional warehouse adjacent to the finishing department. This warehouse will be utilized for storage purposes.

The mill is running steadily and reports a good demand, though there has been some slackening in call of late, largely due to the seasonal lull in business during the summer months.

Additional boiler capacity is also being installed to burn sulphate waste, thus converting a waste item into steam which is used in the regular operation of the plant.

CAMERON ISSUES USEFUL CATALOG

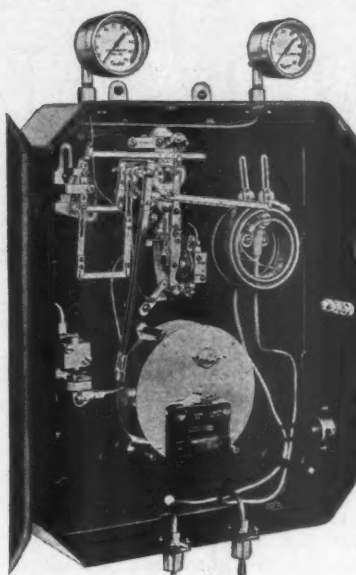
The new 56-page catalog published by the Cameron Machine Company, 61 Poplar Street, Brooklyn, New York, contains a large amount of reference data of use to the paper mill superintendent. There are more than thirty-five distinct types of slitting and roll-winding machines illustrated in the catalog. The types of machines illustrated range from heavy duty mill type winders of the type the company recently installed in connection with the largest fourdrinier newsprint machine in the world, to narrow width slitting and roll-winding machines designed to reclaim damaged and telescoped end rolls.

For those who are interested in the principles involved in the operation of slitting and roll-winding equipment, an interesting comparison of various slitting methods is made in the opening pages of this book.

Those who already have Camachine equipment will find the catalog especially valuable, as it describes the latest developments of the company in the way of improved cutters, new high speed slitters, new type slitters for transparent cellulose material and also a water-cooled mill roll brake for slitters operating at high speed.

Considerable space is given to describing accessories designed to assist Camachine owners to get the most out of their equipment.

The Cameron Machine Company anticipates a heavy demand for this catalog, for it summarizes the results of more than thirty years effort devoted exclusively to the problems of slitting and roll-winding.



TAYLOR RESET CONTROLLER

The new Taylor Reset Controller, recently developed by the Taylor Instrument Companies, is regarded by the company as another milestone towards the goal of providing industry with completely automatic process control. This new control instrument is an outgrowth of the so-called "differential controller" which has been used chiefly in air-conditioning work, but its potential uses are vastly greater due to the fact that it incorporates all of the advantages of the Taylor "Fulscope" control mechanism and can be easily adjusted to meet a great variety of requirements.

In general, it controls a temperature, pressure, rate of flow, or liquid level, in a predetermined relation to some other temperature, pressure, rate of flow, or liquid level. It can be used on all applications where a fixed differential must be maintained between two variables, one of which is under control; or where it is desirable to change the control point of a process in accordance with a predetermined ratio to a secondary process or condition.

The Taylor Reset Controller employs one complete "Fulscope" control system and, in addition, an extra tube system, pressure spring or manometer, depending on the application. The "Fulscope" mechanism and the second actuating or "resetting" mechanism are separate, yet so interconnected by linkage that any changes which occur in the "resetting" system are transferred to the "Fulscope" mechanism as control point adjustments. Both the adjusting and the controlled conditions are recorded.

The adjustable linkage of this new controller permits control point changes in a great variety of ratios between controlling and resetting systems. The value of this ratio is always a constant for any one adjustment of the ratio linkage. The maximum ratio value obtainable with the Reset Controller is 5 to 1, which means that the control point can be shifted a maximum of 5 units for each unit change in the resetting system.

Two types of ratio adjustments are possible, "direct" and "inverse"; either of these adjustments as well as changes

from one to the other are easily accomplished in the field—without the aid of additional parts.

Direct ratio adjustments cause an increase in the controlled condition when the adjusting condition increases, and vice versa. For example, maintaining pressure in a tank at a constant differential of 2 lbs. above the pressure in a certain pipe line; or, in feedwater heaters, as the back pressure in the heater increases or decreases, the temperature control point should be raised or lowered respectively.

Inverse ratio adjustments provide for a decrease in the controlled condition with an increase in the adjusting condition and vice versa. For instance, in air-conditioning large rooms it is sometimes desirable to reduce the temperature of the incoming air from the conditioner as the temperature of the return air is increased, due either to body heat or changes in indoor conditions. Another example in this same field is the controlling of incoming air temperature in accordance with outside temperature changes.

Taylor Reset Controllers for temperature applications may be mercury, vapor, or gas-actuated, whichever is best adapted to the control problem.

The chart is rotated by an electrically driven clock movement; spring-driven clocks are also available.

Control is maintained in the conventional manner by regulating the flow of air pressure to the diaphragm valve in the controlling medium line in response to changes in the apparatus under control. A constant 25 lb. per sq. in. air pressure is specified for the most efficient operation of the instrument.

The die-cast aluminum case is supplied in two styles—for face-mounting, or for flush-mounting on panel boards. Standard finish in instrument black; white finish can be supplied.

MAY MAKE RAYON, GUNCOTTON AND PAPER FROM BAMBOO

A report from Manila, in the Philippine Islands, says that the industrialization of bamboo is contemplated by a private concern endeavoring to organize a \$500,000 corporation for the manufacture of artificial silk and celluloid.

The bureau of science is cooperating with Sorox and Company, the promoters, in making tests of the practicability of such usage of bamboo material.

A prospectus for the proposed corporation details the possibilities of industrializing bamboo. Many industrial products are declared available, including artificial silk, celluloid and cellophane.

Guncotton and high-grade paper also are items which may be produced on an industrial scale from bamboo, according to the prospectus.

The manufacture of industrial products from bamboo was reported achieved by a Spanish industrial chemist and engineer of the University of Madrid, Spain.

T · R · A · D · E • T · A · L · K

'of those who sell paper in the western states

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COAST PAPER TRADE HOLDING TO CODE RULES

Paper jobbers and distributors on the Pacific Coast are observing the trade practice provisions of their old code, a checkup of the situation reveals.

"The paper distributing trade on the Pacific Coast is unanimously on record as favoring the continuance of wages and hours of labor and the principles of fair competition which were embodied in their code and they will continue to observe the principles thereof in every lawful manner," says H. Arthur Dunn, Jr., who is associated with his father, secretary of the Pacific States Paper Trade Association.

Seattle

At their regular monthly meeting, June 4th, the Seattle-Tacoma Wholesale Paper Merchants voted unanimously to keep in effect all of the fair trade practices pledged under their NRA code until the end of June.

This action was reported by E. E. Embree of Carter, Rice & Company, president of the group, who stated he expected that through the efforts of the National Paper Merchants Association and the Pacific States Paper Trade Association a plan would be forthcoming before the end of the month for carrying on without benefit of the code.

The Seattle Tacoma Paper Merchants group holds its meetings on the first Tuesday evening in the month at the Washington Athletic Club in Seattle. C. M. Packer of the Packer-Scott Company is vice-president and E. L. Skeel is secretary.

Portland

In the Portland trading area wholesale paper houses are following the code with respect to wages, hours of labor and prices. Code activities for the time being are marking time. The wholesalers of fine papers are for the most part satisfied with the provisions of the

code and expressions are quite general that in this division a volunteer code will work well and will meet with general approval.

In fact in the Portland trading area the code, in all classifications, has been well followed. On wrapping, bags and tissue the earlier "mistakes" of some jobbers, especially wholesale grocery and janitor supply houses, have been eradicated and the trade, with one exception, has been sticking to code prices.

There has been an effort on the part of wholesale grocery houses to remove paper items handled by the wholesale grocery trade from the paper code and place them under the grocery code. That desire continues and may lead to some difficulties in the development of a voluntary code covering the coarse paper distributors.

At the time of writing there had been no "chiseling" of prices, or reduction of wages.

During May the paper trade in the Portland trading area proceeded at a brisk pace and all the houses report a good volume of business. In early June some slackening in demand was noted, in part due to the usual seasonal slackening during the summer months and in part perhaps to stagnation in part of the area due to the lumber industry strike.

San Francisco

C. H. Beckwith, San Francisco, Carter, Rice & Co., Corp., former president of the Pacific States Paper Trade Association, says he thinks that the adverse NRA decision of the Supreme Court will not alter, in any way, the operations of most of the paper distributing houses on the Coast.

"As far as our own house is concerned," Mr. Beckwith says, "we are continuing to live up to our NRA agreement and intend to continue. Since the NRA decision, the market has stiffened and if there is any change in prices, it will be upwards.

Of course the open pricing plan is out, but we are observing all regulations as to hours and wages."

Los Angeles

Although the NRA code for the paper distributing trade has been nullified by action of the Supreme Court, Los Angeles paper merchants are going ahead with an active trade organization program for both fine and coarse papers.

The NRA decision has killed the price reporting plan, but the paper firms plan to have their own modified system which will accomplish some of the same results.

The local code sub-committee office will be retained with the same staff, headed by W. B. Reynolds. Before the code was in effect, Los Angeles merchants maintained association offices, and they now revert to a similar organization, with certain modifications and enlargement of activity.

On the day following the Supreme court decision outlawing the NRA, Martin J. Collins, president of the Graham Paper Co., which handles sales for the St. Helens Pulp & Paper Co., wired his Los Angeles manager, Frank Philbrook, saying: "Regardless of Supreme Court decision, Graham Paper Co. contemplates no change in hours or wages or method of pricing or merchandising. Our business is healthy. Future looks good and every mother's son should increase his sales. Let's go."

"All the merchants are holding to the code provisions, in spite of the fact that the code is ineffective now," said Tim O'Keefe of the Sierra Paper Co., Los Angeles. "There have been no changes in wages or hours, and the price structure has remained firm."

W. B. Reynolds, who has been secretary of the code subcommittee for the Los Angeles trading area, and who is continuing his organization as a trade association, says, "Since the decision of the Supreme Court, trade observance of hours and wages, price structure and trade customs, terms and conditions of sale, have been very little different than before the decision was rendered."

U. S. PAPER STARTS CONSTRUCTION

The United States Paper Co., Los Angeles, started construction of a new building about the middle of June, and is expected to move to the new quarters as soon as they are finished in September.

The warehouse and distributing plant will be at Evergreen St. and Pico Blvd. It will be 118 x 151 feet, of two-story height, with reinforced concrete construction. Its 40,000 sq. ft. of floor area will provide considerably greater storage, shipping and receiving facilities than now available at the present location at 1301 East Sixth St.

According to Sam Abrams, head of the company, the firm will enter the fine paper business after moving to the new structure.

LOS ANGELES TRADE NEWS

Charles Merchant of the Johnson-Locke Co., San Francisco merchandise brokers representing the Continental Paper & Bag Co., recently visited New York for several weeks, and later spent some time in Los Angeles.

S. T. Faulk of the Los Angeles Paper Bag Co. spent a week in June in the high Sierras on a fishing trip—much to his mortification, it is reported.

Harold E. Knott of the Eastern Manufacturing Co., and president of the Salesman's Association of the Paper Industry, was entertained in Los Angeles May 20 by Edward N. Smith and Frank Philbrook, while here on a business trip covering the entire coast.

John C. Walker of the Sierra Paper Co., Los Angeles, is off the order desk again and is back doing selling in the downtown territory. His former place has now been taken by Richard Anzellotti, who came to Sierra from the Bookbinders Corp.

Harold Collins, a salesman with the Graham Paper Co. in the St. Louis headquarters, visited the exposition at San Diego early in June, and spent some time with Frank Philbrook, Graham representative in Los Angeles.

J. B. Jones of Los Angeles, Coast representative for the Beckett Paper Co. and an old-timer in paper jobbing circles, will celebrate his golden wedding anniversary in August with a big family reunion, relatives coming from all parts of the country.

tives coming from all parts of the country.

Tom O'Keefe of the Sierra Paper Co., Los Angeles, left early in June for a trip to Chicago, where the parent Butler Paper Co. has offices.

Frank N. Gladden, Pacific Coast manager for the Continental Paper & Bag Co., recently made a month's trip through the Pacific Northwest, B. W. McGrath, manager of the specialties division of the company, and who was a Los Angeles visitor a short time ago, has now returned to New York.

Edward N. Smith, Los Angeles mill representative, reports that in the opinion of one of his principals, an eastern mill, the paper business is due to pick up materially by August 1, and that with the relaxation of government control, industry in general is ready to spend 50 billion dollars to for plant improvements.

LOS ANGELES REPRESENTATIVES MEET

The June meeting of the new paper mill representatives association in Los Angeles was held June 10 at the Mona Lisa cafe, with a full quota of members present. The gathering was held in the evening, in accordance with the plan of alternate moon and evening meetings mapped out by the organization.

President Frank Philbrook led the meeting. He reported the letter from the group to the Del Monte convention of the paper trade association had been received with approval. Action was deferred on an invitation from Harold Knott, president of the Salesmen's Association of the Paper Industry, to join the national body as a group.

Details of the hi-jinks to be held for the paper jobbers in August were discussed and decision reached to go ahead with the plans for the event.

The July meeting will be a noon-day affair, and is being arranged by a committee of L. W. Mayclin, D. E. O'Harn and H. T. Rottler.

AYRES JOINS AGENCY

Rollin C. Ayres, for 17 years advertising director of the Zellerbach Paper Co., San Francisco, has relinquished that post to become vice-president of James Houlihan, Inc., advertising agency at San Francisco. Mr. Ayres retains his connection with the Zellerbach interests, being advertising counsellor of the Crown Zellerbach Corporation.

FRICKE HONORED AT BANQUET

Carl H. Fricke was honored May 23 by the wholesale paper distributors in Southern California at a complimentary dinner tendered in honor of his recent election as president of the Pacific States Paper Trade Association.

Some 50 paper men gathered at the Los Angeles Athletic Club for the celebration. Walter Huelat of Blake, Moffitt & Towne was toastmaster for the evening, and was presented by W. B. Reynolds.

Following the introduction of guests, congratulatory letters and telegrams were read felicitating the new president. Among those sending their greetings were C. H. Beckwith, Carter Rice & Co., San Francisco, retiring president; J. Y. Baruh, Los Angeles; H. Arthur Dunn, San Francisco, secretary P. S. P. T. A.; Harold L. Zellerbach, San Francisco, president National Paper Trade Association; E. E. Embree, Carter Rice & Co., Seattle; A. P. Spitko, Carpenter Paper Co., Salt Lake City; G. O. Rogers, Spokane Paper and Stationery Co., Spokane; E. R. McQuaid, Pacific Coast Paper Co., San Francisco; Vernon C. Scott, Packer-Scott Co., Portland; T. A. O'Keefe, Sierra Paper Co., Los Angeles; Bert Terwilliger, Warde, Davis & Dunn, Los Angeles; Arthur Kelly, General Paper Co., and Oliver French, Los Angeles, Fred H. French Paper Co.

The committee arranging the meeting consisted of R. R. Whiteman of Blake, Moffitt & Towne, Gordon Murphy of the Zellerbach Paper Co. and A. J. Nelson of the Ingram Paper Co.

One of the high lights of the entertainment provided was a female impersonation by L. A. Otto of the Paper Supply Co. Another feature was the presentation of gifts from admirers of Mr. Fricke, ranging from marbles to rubber daggers.

PRITCHARD HONORED

A wrist watch and a suitably engraved watch charm plaque were presented to Charles Pritchard, San Francisco, sales manager of Bonestell & Co., when he retired in May as president of the San Francisco Advertising Club. Harold Deal, advertising manager of the Associated Oil Co., is the new president.

DONOGHUE

A June visitor in San Francisco was Thomas F. Donoghue, manager of the Chicago office of the Riegel Paper Co., manufacturers of tag board and Bristols.

A BUNCH OF SOFTIES?

Jacob Kindleberger, president of the Kalamazoo Vegetable Parchment Company and known throughout the industry as "Uncle Jake," has mailed a letter to many people throughout the country containing some of his very pertinent personal comments.

"Call us old-fashioned if you will," writes Uncle Jake, "but we are not ashamed to belong to that dwindling generation which believes that salvation comes through toil, not leisure; through struggle, not through ease.

The only worth-while things that have come to us in this life have come through work that was almost always hard, and often bitter. We believe that this has always been true of mankind and that it will always be true.

We believe not in how little work, but how much; not in how few hours, but how many. In short, with Theodore Roosevelt, we "wish to preach not the doctrine of ignoble ease, but the doctrine of the strenuous life."

America must not grow soft!

MAXWELL

A trip to a meeting of napkin manufacturers at Cleveland, O., was taken in May by D. L. Maxwell, San Francisco, treasurer of The Tissue Co. of Saugerties, N. Y., and also its Pacific Coast representative. Mr. Maxwell, accompanied by his wife, went on from Cleveland to Saugerties. This is his first trip east since 1932.

PELL TO SOUTH SEAS

Rod Pell, president of the Pelican Paper Co., San Francisco, left July 3 aboard the steamer "Makura" on his seventh trip to the South Seas in search of pictures. This time he is taking along a motion picture camera to make colored shots and will probably call then "Pelichromes of the South Seas", instead of the "Peligrams", with which he has entertained thousands of people. Frank Wulzen, San Francisco camera expert, is going with Mr. Pell.

J. A. Watson, sales manager, and J. A. Shahan, purchasing agent, Pelican Paper Co., recently enjoyed a month's vacation each. Watson went into Canada and Shahan to Lake Tahoe.

Mr. Pell expects to be gone three months.

"WHAT'S DOING?"

"What's doing?" a PACIFIC PULP & PAPER INDUSTRY news sleuth recently asked W. A. Emerson, head of The Paper Mills Co. at 930 Battery St., San Francisco paper distributors and mill representatives.

"You sound like I used to," Mr. Emerson replied, "when I was selling paper and envelopes in Chicago and corresponding on the side for a stationery trade journal and a paper trade magazine." Mr. Emerson tells how once in his hunt for news he met a Mexican promoter in Chicago who wanted to raise capital to build a big pulp and paper mill down below the Rio Grande. Emerson introduced the Mexican to a paper manufacturer who was going to back the proposed mill but it never got going, because the manufacturer died shortly thereafter. And Mr. Emerson had been promised a big job in the new mill by the Mexican mill president for his promotional services.

The only news Mr. Emerson has these days is that business is better than it was a year ago. He has been in the paper trade in San Francisco for two years, coming west from Massachusetts. He keeps one country salesman and two in the city busy.

Harold L. Zellerbach, San Francisco, flew east June 8 to attend the final windup meeting of the code committee in charge of the national paper distributing code. Mr. Zellerbach is president of the National Paper Trade Association, chairman of the national code authority and also head of the Pacific Coast regional paper distributing code committee. He will visit several eastern points and return to San Francisco by Spokane, Seattle and other Pacific Northwest points.

H. Arthur Dunn, San Francisco, secretary of the Pacific States Paper Trade Association, also went east to attend the final meeting.

Louis A. Colton, vice-president in charge of purchases of the Zellerbach Paper Co., San Francisco, was on the high seas early this month en route home via the Panama Canal from his annual eastern trip. He will arrive in San Francisco June 23rd.

NEW KVP MAN

Kenneth Cade has come out from the Kalamazoo Vegetable Parchment Co. will be assistant to C. A. Buskirk, San Francisco, Pacific Coast representative.

TOM DOANE DIES

Death has taken another popular Pacific Coast paper trade pioneer—Thomas H. Doane, San Francisco, head of the Doane Paper Co.

"Tom" Doane's passing leaves a big gap in western paper circles, for he has been active in the trade since 1886, when he went to work for Bonestell & Co. He was with Bonestell until 1904, when he and others formed the Pacific Coast Paper Co., with which he remained until 1928. The Doane Paper Co., founded in February, 1929, will be carried on by Mr. Doane's widow, Mrs. Lillian B. Doane, and his son, Osborne Doane.

Mr. Doane was president of the Pacific States Paper Trade Association in 1922.

Several San Francisco paper men are planning to attend the 1935 convention of the Pacific Coast Advertising Clubs at San Diego June 23-27. Among them are Victor Hecht, Zellerbach Paper Co.; T. C. Macormack, Strathmore Paper Co., and Charles Pritchard, Bonestell & Co.

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NEW GERMAN CELLULOSE PRODUCT

A purified form of wood fiber developed in Germany in 1933 offers a useful raw material to various industries. The product, designated in Germany as "Holzfaserstoff" is a ground wood pulp from which the infiltraceous materials have been removed by special process. The product is essentially of fibrous wood material—cellulose and lignin—and in dry, fluffy form. The by-product waste is recovered and made into a kind of glue, for which various uses are proposed, including paper size. Holzfaserstoff is still moist when freshly made. It may be hot pressed into semi-dry pulp of 40 per cent water content or dried by direct heating or by the action of hot air to a 10 per cent dryness. The papers manufactured from the product are claimed to possess more volume, feel, softness, and better printing qualities combined with crispness, dust repelling qualities, uniform translucence and uniform surface. The rough wood fiber pulp after suitable treatment can be made into insulating board. From the finer fibers "artificial" wood is made. Other uses found practicable for this interesting new material are "liquid wall paper", a paint that imitates wall paper; a putty for securing wooden plugs in walls; wall panels consisting of Holzfaserstoff with plaster of Paris or cement, etc.

Holzfaserstoff is used as a raw material in the manufacture of wood cellulose in the place of ordinary wood pulp. The advantage claimed for this round-about way is that a greater percentage of the cellulose contained in the wood goes into the finished product and less into the waste liquor. The efficiency of cellulose recovery is thus increased to 70 per cent of the content of wood as compared with the present form of 50 per cent by the sulphite process.—Bureau of Foreign and Domestic Commerce.

WASHINGTON'S REFORESTATION

Although it is not generally known, nature and the Washington State Department of Public Lands are carrying on a vast natural reforestation plan which is comparable to the man-made plans in force in other states, announces A. C. Martin, commissioner. The plan affects more than 1,000,000 acres of timber in the state.

"Our vast forest resources," said Mr. Martin, "are not being destroyed, but are being propagated as the timber is removed. We are not going to follow the example of some other states and adopt reforestation only after losing our tree-clad areas."

The first step in the reforestation system is taken before the timber sale. When valuing the timber, the state agents inspect the area for young growth. This growth must be protected by the purchaser. In many areas the old system of blanket burning is replaced by spot burning to further protect the young trees.

Following the logging operations another inspection is made and the land designated as suitable for timber or agriculture. If it is reserved for timber, nature takes a hand under the guidance of the Department of Public Lands.

"In following the natural course we are eliminating the costly outlay necessary for a reforestation plan. The forest areas of the entire state are included," explained Mr. Martin. "This gives us statewide reforestation, and also lessens the fire hazard which is present if the plan is limited to one district."

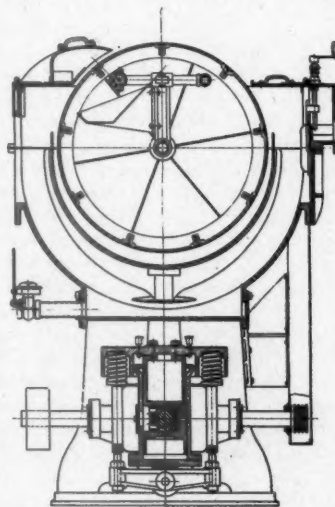
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PAPER IMPORT COURT CASES

In addition to the important test case involving the dutiability of paper outside the recognized definition of standard newsprint recently tried in New York other cases involving various related problems are scheduled for trial at other ports in the near future, in which the Import Committee of the American Paper Industry will represent the domestic interests.

At Seattle there is before the Customs Court a series of cases involving canary newsprint in rolls used by a newspaper, and various shipments of colored poster paper in sheets. All of this paper was classified for duty by the Customs officials, but the importers have protested to the Courts that they are standard newsprint duty free.

At Los Angeles there are a series of importations before the court, involving not only colored poster paper in sheets, but also white paper with 10 per cent ash, and 40 per cent sulphite which the importer claims is duty free as Standard newsprint.

The Secretary of the Treasury has ruled that Swedish M. G. Sulphite Wrapping paper is not being dumped. The ruling is the same as that previously made as to Swedish M. G. Kraft despite the fact that the highest Customs Court had previously ruled that the paper was undervalued about 1 cent per pound. No reason for the ruling is given, but it may be assumed that it was to pave the way for the Swedish reciprocal trade agreement published shortly thereafter in which the United States cut the duty on Swedish wrapping paper.

The importers of bristol board have appealed to the United States Court of Customs and Patent Appeals from the adverse decision rendered in United States Customs Court in April. The importers are contending that this merchandise is properly dutiable at rates other than the rate of 3 cents per pound and 15 per cent provided for bristol board, claiming it is either paperboard at 10 per cent or coated board at 30 per cent. The Import Committee is assisting the government in conducting the appeal, in an effort to have the dutiability of such merchandise finally decided at the rate of 3 cents per pound and 15 per cent.

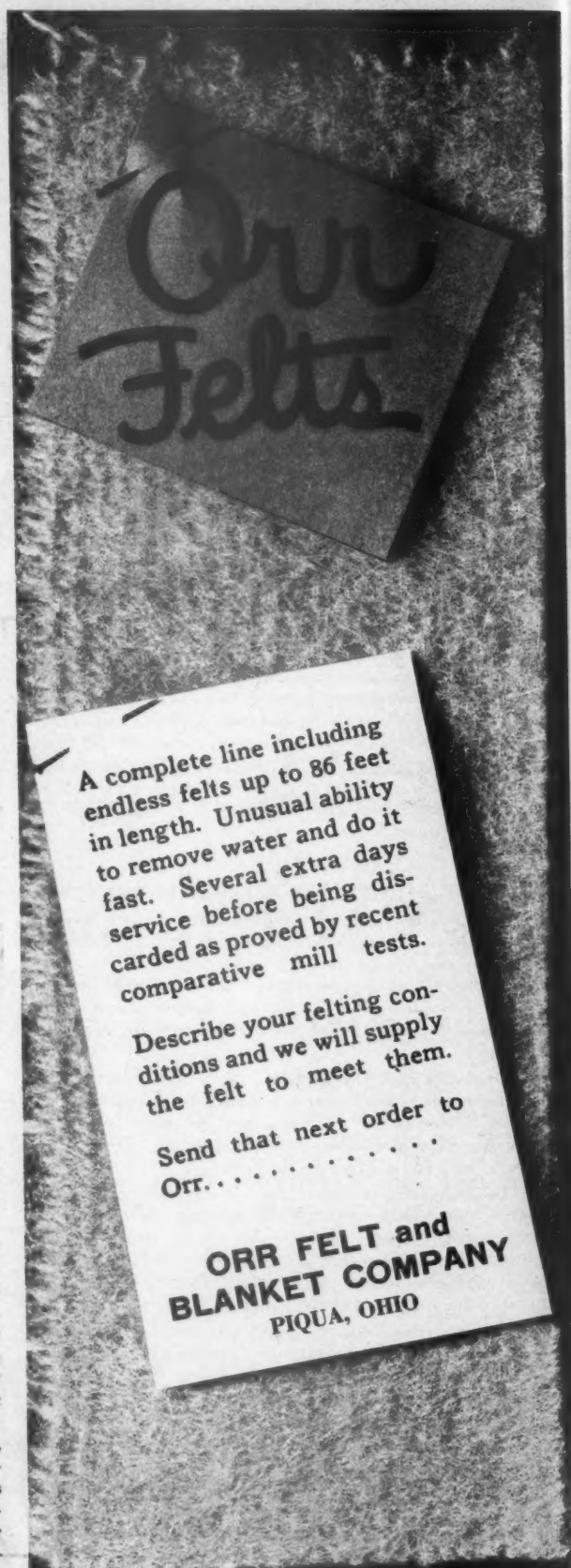
Cases abandoned by importers include four cases involving importations at New York of black print photographic paper claimed to be dutiable as basic photographic paper abandoned as result of test case deciding such paper to be dutiable at higher rate.

JAPANESE MILL TO MAKE RAYON PULP

A number of new projects to increase production of pulp are under way. The plant of the Japan Royal Pulp Company in Karafuto is nearing completion and the company expects to commence marketing pulp for rayon production in July. The production plan calls for an output of 30,000 tons of rayon pulp annually. In addition the company will also produce kraft pulp and has ordered the necessary machinery from Germany. This machinery is expected to arrive in August and production will start about the end of the year.

The Japan Celluloid Company is reported to have increased their capitalization by yen 5,000,000 and to have started the construction of a plant in the vicinity of Osaka to manufacture various kinds of photographic paper.

Another company, with a capital of yen 1,000,000, has recently started construction of a plant at Kanoi-wamchi, where it will produce toilet and other tissues from the bark of the mulberry tree. The company expects to be in production by October. Various other projects are under way but are not so far advanced.—Bureau of Foreign and Domestic Commerce.



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